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THE CHEMIST AND DRUGGIST

A Weekly Journal of Pharmacy and the Drug-trade.
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CIRCULARS AND PRICE-LISTS.

How to Distribute them to the Drug-trade.

Many of the best advertisers in the drug-trade have endorsed our view that it is more effective as well as cheaper to distribute circulars and price-lists stitched up in The Chemist and Druggist than sending them singly by post. We make such insets in the *C. & D.* notable by the fact that we only receive them twice a year for distribution, and, of course, we ensure that they get into the hands of the right people. Sending them singly by post is more or less (principally "more") a lottery, gives immense office trouble, and costs at least three times more than our charge for inserting them in the *C. & D.* We would advise those who think of the matter to write to our Publisher for particulars about the next distribution—the Summer number, July 28, 1900. He will not only give particulars about the charges, but what artistic assistance he can in designing or arranging insets. The date is two months distant, but near enough for prompt instructions to printers.

Summary.

The Features of this Issue are an index to Vol. LVI. and

A Complete Report of the Paris Exhibition. Members of our staff have visited it, and selected from every Court for comment the most important matters connected with all branches of the chemical and drug trades. The report extends to forty pages, and is fully illustrated by photographs and sketches made by our artist on the spot. It begins on p. 1079.

Chemists in Forfarshire are troubled by the lack of apprentices (p. 1065).

The B.P.C. Programme does not please "Xrayser" (p. 1075), nor an Irish correspondent (p. 1124).

A Talk with Mr. Dobbs, who is organising a society to break down "monopoly in poisons," is referred to p. 1078.

Birmingham Seidlitz-powders are the subject of a report by the City Analyst. He has found some of them bad (p. 1063).

Another Case by the Saccharin Company for infringement of their patents has been heard in the High Court this week (p. 1119).

The Serum Cancer-cure is referred to by our Paris correspondent, who also tells a pretty story about the King of Sweden (p. 1066).

A Further List of subscribers to the local fund for the entertainment of the British Pharmaceutical Conference is printed on p. 1127.

The Stock of Ergot everywhere is exceedingly low, and the prospects of a good crop this year are poor. The market situation is reviewed on p. 1077.

"Formalin" was refused for registration by the Comptroller-General for Trade-marks, and the owners have unsuccessfully appealed to the High Court (p. 1119).

The bird which Mr. Fred Reynolds contributes this week is provincial, and bears a resemblance to Mr. Newsholme, the new President of the Pharmaceutical Society (p. 1071).

The Drug-markets are quiet this week, with the exception of the leading Chinese essential oils, which have advanced considerably. Rhubarb is also firmer, and ergot is dearer (p. 1127).

The enhanced price of coal-gas has induced Professor Silvanus Thompson to suggest the supply of a non-illuminating gas from a different source which would serve the same purpose (p. 1078).

The Use of Pitkeathly water as a table-water is under dispute in the High Court of Scotland, Messrs. Reid & Donald, who have put an artificial water on the market, being the defendants (p. 1120).

The Chemist and Druggist correspondent at Capetown has arranged with the Customs authorities at Bloemfontein for the rapid transmission of druggists' goods to the Orange River Colony (p. 1066).

Dr. Schryver, of the Wellcome Chemical Research Laboratories, has obtained derivatives of morphine in which chlorine or bromine displaces the hydrogen atom, and the products are not narcotics (p. 1074).

The arsenical sodium-phosphate matter still awakes interest. We give some further particulars on p. 1078, and Mr. F. C. J. Bird communicates a useful paper on the best methods for testing the phosphate for arsenic (p. 1073).

The Report on the last analytical competition is printed on p. 1062. The salt was a mixture of ferrous, manganese, and zinc sulphates. Mr. Moss gives excellent hints on how to analyse such a mixture, and gives the prizes to Clifton and Wigton.

An Oilman in South London, who obtained in July, 1898, penny bottles of camphorated oil from a wholesale house, and was fined this year for selling it because it was adulterated, has recovered the penalty and costs from the wholesalers. The legal proceedings were rather interesting (p. 1123).

Messrs. W. Doig, T. Dunlop, A. Naysmith, and A. Spence are the new members of the Scotch Executive of the Pharmaceutical Society. At the annual meeting of the members in Edinburgh last week warm disapproval was expressed of the way in which the London officers of the Society conduct some parts of its business (p. 1067).

The Companies Bill was read a second time in the House of Commons on Tuesday. Mr. Ritchie stated that he had received one hundred times more communications regarding the pharmacy and medical clauses than in respect to any other, and suggested that they should be dropped. Various amendments are proposed (p. 1070). We discuss the matter on p. 1076.

Students' Corner.

Conducted by Richard J. Moss, F.I.C., F.C.S.

Qualitative Analysis.

THE subject of the next exercise in qualitative analysis will be a mixture of not more than three salts. The mixture is to be submitted to a thorough systematic examination, all its constituents are to be detected, and proof is to be given that the substances detected are the only constituents of the mixture.

Students' applications for portions of the mixture of salts (accompanied by a *stamped and addressed envelope*, not a stamp merely) will be received up to Wednesday, July 4, and the samples will be posted on July 5.

Students' reports will be received up to Saturday, July 14. Each report should contain a concise account of the work done, and should include a list of the constituents detected. In this list any substance regarded as an accidental impurity should be distinguished from the essential constituents of the salts composing the mixture.

Reports.

The mixture sent to our correspondents on May 31 consisted of 3 parts of ferrous sulphate, 1 manganous sulphate, and 1 of zinc sulphate.

The calculated composition of such a mixture is :—

Fe	12·08
Zn	4·53
Mn	4·56
SO_4	35·38
H_2O	43·45
	100·00

A trace of sodium and slight traces of calcium and chlorine were present as impurities.

Samples of the mixture of salts were sent to sixty applicants, and thirty-three reports of analyses were received in reply. All our correspondents detected the constituents of the principal salt in the mixture, ferrous sulphate, but there were sixteen failures in the detection of zinc, and six failures in the detection of manganese.

It will be observed that the powder contained almost exactly the same quantity of the two metals zinc and manganese. The greater ease with which the latter metal was detected must be attributed to the very characteristic and easily observed reaction it exhibits in the dry way. When a salt of manganese is fused with one of the carbonates of the alkali metals, and an oxidising agent, such as a nitrate of potassium or sodium, a manganate is formed, and owing to its intense green colour it may be recognised when present in relatively small quantity. The metal zinc affords no such characteristic reaction. By reduction of a zinc salt on charcoal in the blowpipe-flame the metal may be volatilised, and reoxidised under such conditions as to form a coating or incrustation on the charcoal. This oxide is yellow while hot and turns white on cooling, and it becomes green when ignited with a cobalt salt, so there is no difficulty in identifying it; but a good deal of skill is required to obtain the incrustation of oxide when the substance under examination contains but little zinc. The white colour of zinc sulphide and the insolubility of the sulphide in acetic acid are highly characteristic, and afford an almost certain means of identifying the metal, provided substances likely to interfere are absent. In the present exercise the difficulty in the detection of zinc arose from the presence of a large quantity of iron. The best way of proceeding was not to attempt the separation of the iron by precipitating it as ferric hydroxide by means of ammonia. It was practically impossible to precipitate the iron in this way without carrying down a certain amount of manganese and zinc, the quantities varying with the strength of the solution, the temperature, and other conditions of the reaction. Instead of filtering off the hydroxide, ammonium sulphide was at once added in sufficient quantity to impart a yellow colour to the liquid. By this means the three metals were completely precipitated together. To this precipitate the barium-carbonate method of separation should be applied. It is as follows:—The precipitate is well washed with water containing a little ammonium sulphide to prevent oxidation taking place during the process. The precipitate is then removed to a flask and dissolved in dilute hydrochloric acid, using as little acid as can be conveniently employed. The iron is then oxidised in the usual way, care being taken that no iron remains in the lower state of oxidation. The next step is to remove the greater part of the free acid by adding sodium carbonate. It is owing to the desirability of this operation that a small quantity of acid was used in making the solution. Barium carbonate in excess is now added in the solid form, either as a dry powder, or in suspension in water. The dry powder is convenient, but for accurate work the freshly-prepared carbonate in suspension in water is to be preferred. The flask should be corked, and shaken from time to time until the precipitation is complete. If the operation has been properly performed the flask will be ful of carbon dioxide, and there is no risk of any manganic compound being produced by the action of the air. The precipitate will now contain hydroxides of any metal originall present in a form corresponding to the sesquioxide while the metals which were present, in a form corresponding to a lower state of oxidation, will be found in solution. In other words, supposing all the members of the group t be present, the precipitate should contain iron in the ferri state, aluminium, and chromium, while nickel, cobalt, zinc and manganese would remain in solution. A certain amoun of undissolved barium carbonate would, of course, remai with the precipitate, and a certain amount of barium, in th form of chloride, will have passed into solution. In bot cases the barium is easily removed, if necessary. In th present exercise, the operation we have described left a precipitate containing all the iron, and a solution containin all the zinc and manganese, to be dealt with. No othe method in common use effects such a complete separatio The remaining steps of the analysis presented no difficult The separation of the manganese and zinc was easily effecte by taking advantage of the insolubility of zinc sulphide i acetic acid. We recommend our correspondents to make practical study of this method, with a view to applying whenever it is necessary to effect a complete separation the metals forming sesquioxides from the other members the group.

Prizes.

The First Prize for the best analysis of the mixture salts has been awarded to

T. H. H. Francis, care of Mr. H. E. Matthews, Clifto

The Second Prize has been awarded to

J. W. Moore, 10 Proctors Row, Wigton, Cumberland.

Marks Awarded for Analyses.

T. H. H. Francis (1st prize)	100	E. B....	
J. W. Moore (2nd prize) ...	98	J. Matthews	
C. W. M.	97	Longhome	
Dubitum	97	S.V.R.	
Quercus	96	Hydroxyl	
J. R. Stott	90	Aberthaw	
W. Maxwell	90	Algol	
A. J. Hope	90	A. B. C.	

Peloria	79	Arum	68
Veronica	77	W. J. Gardam	67
Henry Tebb	76	Carolus	65
Venator	75	H. P. W.	63
Japoconitine	73	Cæsar	61
R. E. Jackson	71	Lennore	60
R. T. S.	70	F. W. Wall	45
Prologue	70	Tragacanth	40
P. Glaucum	69		

To Correspondents.

Prizes.—The students to whom prizes are awarded are requested to write at once to the Publisher, naming the book they select, and stating how they wish it forwarded.

Any scientific book that is published at a price not greatly exceeding half a guinea may be taken as a first prize.

Any scientific book which is sold for about five shillings may be taken as a second prize.

Note.—All communications should include the names and addresses of the writers.

James R. Stott.—The barium-carbonate method gave a very complete separation of the iron from the manganese and zinc. You will find the method fully explained in Menschutkin's "Analytical Chemistry," translated by J. Locke, page 60. The method is also described in Fresenius' "Qualitative Analysis," tenth edition, page 307.

W. Maxwell.—You concluded from the flame-coloration that sodium was present in quantity; only a rough estimate can be made in this way. The appearance of the residue left, when the filtrate from ammonium carbonate is evaporated and ignited, gives the only safe means of judging whether the alkali metals are present in quantity. Of course, if magnesium is present, it must be removed before one can form an opinion.

E. B.—You should have given some experimental evidence in support of the view that a sodium salt was one of the constituents of the mixture, and that it was not present as a mere impurity.

J. Matthews.—See remarks to "E. B."

Longhome.—Operating upon ½-gramme of the mixture with the soda-lime test, there was no change in the colour of red litmus paper in two minutes; if ammonia was present the quantity must have been infinitely small. A rather strong solution of the powder acidulated with nitric acid gave, with silver nitrate, a slight turbidity, slowly appearing; obviously chlorine was present in only minute quantity.

S.V.R.—The precipitate you attributed to magnesium was due to manganese. You gave no evidence of more sodium than sufficient to colour the flame strongly; a minute quantity will produce that effect, and in the form of sulphate it is not rapidly volatilised.

Hydroxyl.—The quantity of sulphate in the powder was large, so that a calcium salt added in sufficient quantity was certain to give a precipitate of calcium sulphate. The original powder did not carbonise when heated; a mixture of oxides was produced, nearly black when hot, and reddish-brown on cooling.

Aberthaw.—The method you followed was the best for the separation of manganese and zinc from iron in the higher state of oxidation. The filtrate from barium carbonate, acidulated with acetic acid, gave a white precipitate of hydrated zinc sulphide with sulphuretted hydrogen.

Algol.—The deficiency you refer to is only comparative. Some of your competitors are expert analysts, and it is no disgrace to be a few marks below them in the list. Reports are judged solely from the chemical point of view. The highest marks are awarded to those that show greatest accuracy and exhaustiveness and most judgment and skill in the conduct of the analysis.

A. B. C.—The quantity of iron was large, and a great deal of ammonia was required to precipitate it and to dissolve zinc hydroxide. It is possible you did not use enough.

Peloria.—In using ammonia as a group-reagent you obtained a precipitate which you describe as greenish; this shows that you had not completely oxidised the iron. Owing to the large quantity of ferrous sulphate in the powder, it was necessary to use nitric acid liberally. It is undesirable to employ a great excess of nitric acid; the changes of colour that accompany oxidation are so marked that one can easily judge whether a sufficiency has been used, and by testing with potassium ferricyanide it is easy to ascertain positively whether any ferrous salt remains unoxidised.

Henry Tebb.—It is difficult to follow your notes. Brevity is commendable, but not when clearness is sacrificed. It is often impossible to tell what solution you refer to.

Venator.—The spectroscope showed a complete absence of potassium; it must have been the ammonium compound that you precipitated with platinic chloride. Sometimes a portion of the solid left on evaporating the residual solution is not heated strongly enough to volatilise all the salts of ammonium. To make sure that no such mistake has been made the platinum salt may be tested in the blowpipe-flame.

R. E. Jackson.—You should have more carefully noted the effect of heating the powder. There was no empyreumatic odour, such as a citrate or tartrate evolve. Continuous heating under oxidising conditions did not alter the colour; carbon would burn away. The precipitate you obtained with calcium chloride was calcium sulphate; if you had heated a portion of it you would have found that it did not carbonise.

R. T. S.—Manganese should have been detected in the preliminary examination in the dry way, by fusing a small portion of the powder with sodium carbonate and a nitrate. Unless detected in this way manganese in small quantity is very likely to be overlooked in the wet examination.

Prologue.—The reactions which led you to conclude a pyrophosphate was present were phenomena of reduction, the reducing agent in this case being ferrous sulphate. Nothing occurred to suggest a hypophosphite when the powder was heated.

P. Glaucum.—When you ignited some of the powder in a bead of sodium carbonate you ought to have noticed that the bead became green in the oxidising flame. You seem to have satisfied yourself that a borate was present; but it is evident that you trusted to the descriptions of the reactions in your text-book, and not to a knowledge of them derived from actual observation.

W. J. Gardam.—In concluding that a phosphate was present you omitted to bear in mind that the mixture of salts was soluble in water and iron was present.

Carolus.—You evidently have not made a practical study of the reactions of chlorates and nitrates, or you could not have supposed the results you observed to be due to those compounds.

H. P. W.—When you heated the powder with strong sulphuric acid you obtained dense white fumes. This shows that you heated the mixture to the boiling-point of sulphuric acid—an unnecessarily high temperature for the experiment, the object of which was to detect easily volatilised acids, or products of decomposition.

Cæsar.—Your report describes a great many tests carried out at random, and in complete disregard of the main object of a systematic analysis, which is to separate the various constituents and identify them when isolated from others.

Lennore.—It is possible the sodium carbonate you used to prepare the solution for examination for the acids contained chloride. When you heated the powder with fusion-mixture you ought to have noticed the green colour due to the formation of a manganate.

F. H. Wall.—You omitted to warm the solution with nitric acid for the purpose of oxidising iron before adding ammonium chloride and ammonia.

Tragacanth.—It seems incredible that you could have fused some of the powder with a carbonate and nitrate of the alkali-metals without obtaining a green-coloured mass. You should repeat the experiment, and find out the cause of your error.

COLLEGE NOTES.

Mr. William Smith has just gained the title of Associate of Science, Durham University, with distinction in chemistry. Mr. Smith served his apprenticeship with Mr. F. R. Dudderidge, Ph.C., Newcastle-on-Tyne, since when he has been a student at the Durham College of Science.

On Friday, June 22, the students of the Imperial College of Pharmacy spent a profitable and pleasant afternoon under the direction of their principal, Mr. Frederick Davis, in the Geological Museum, Jermyn Street, Piccadilly; the metals, their ores, and extraction being the object of the visit. Much else of direct interest to students of pharmacy was pointed out by Mr. Davis.

On June 19 the students of the Northern College of Pharmacy Manchester, had a botanical ramble in Cheshire. A large party of students, headed by Messrs. Clayton, Lawson, and Barnes, travelled by special saloon to Knutsford. Arriving there, a long and circuitous ramble was made through country lanes and woods to Peover. A large and varied collection of plants was made, many of them being of special interest to pharmacy-students. A substantial tea was provided at Peover, where also a good deal of plate-exposing by the amateur photographers among the students took place. The party returned to Manchester about 8 o'clock.

The students of the North of England School of Chemistry and Pharmacy, accompanied by the Principal, Mr. F. R. Dudderidge, F.C.S., and Mr. J. S. Hill, demonstrator, went on a botanical excursion to Morpeth on June 16. The hothouses and gardens of Mr.

Edward Hopper were visited in the forenoon, his choice collection of rare and valuable orchids and other exotics exciting great admiration. After lunch the party proceeded along the banks of the river Wansbeck to Newminster Abbey, and thence through the woods to the village of Mitford, a large variety of wild flowers being gathered on the way. On the homeward route calls were made at the gardens of Mitford Castle and Spital Hill, where many beautiful specimens of vegetation were inspected, great interest being shown in some mistletoe growing upon an apple-tree. On the return to Morpeth the party was entertained to a substantial tea by the Principal, after which Mr. F. E. Schofield presented the prizes gained in the recent school examination to the successful candidates, and addressed a few kind and well-chosen words of encouragement and advice to the students. The first prize, Walker's "Physical Chemistry," was gained by Mr. J. W. Paterson; and the second, Aldous's "Physics," by Mr. H. Longstaff. After the usual votes of thanks, the nurseries of Mr. Mathesen claimed attention, thus concluding a long and thoroughly enjoyable day.

On June 21, through the kindness of Messrs. Woolley, Sons & Co. (Limited), Victoria Bridge, Manchester, some of the students, accompanied by the Principal of the Sheffield College of Pharmacy, visited this firm's extensive premises. On the fifth floor were seen coated pills in immense quantities, the manufacture of trusses, and a large range of the rarer chemicals—the most poisonous being kept in locked cupboards. The glass-ware room is on the fourth floor, together with the analytical-laboratory, also used for bacteriological-work for customers. The uses of the less familiar apparatus were explained by Mr. Duncan. On the third floor was the dry-room, containing over 50 tons of drugs, flowers, barks, fruits, seeds and in powder, stored in 500 capacious bins. On the second floor is the scientific and surgical-instrument department, where photographic appliances were also displayed. On the same floor are the counting-house and offices. Mr. Lane then showed the students the first floor, where goods were being received and despatched, or sent by hydraulic lifts to the different floors. The basement was most interesting, over 10,000 gals. of galenical preparations, 5,000 gals. of oils, and 5 tons of ointments being stored there. The store of liq. strychnin, liq. morphin, liq. hyd. perch., tr. bellad., &c., are kept locked up, separate keys being placed on an indexed board. Owing to other engagements, the visit to the manufacturing portion of the business at Cheetham had to be deferred for want of time. The students then visited the works of Messrs. Jewsbury & Brown, and were conducted over by Mr. Bardesley. Syrup-making was seen on a very large scale. Ginger-beer brewing, CO_2 generating, filtration by gravitation, cordial-making, and syphon-filling were severally explained. The laboratory is under the supervision of Mr. Kirkby, Ph.C., of the Owens College staff. The visit concluded by seeing the famed "Oriental tooth-paste" being ground and mixed by special machinery. In the evening the Chemists' Exhibition in St. James's Hall was visited, when the model pharmacies of Messrs. Evans, Sons & Co., and Messrs. Ayrton & Saunders, of Liverpool, received the most attention.

English News.

Local newspapers containing marked items of news interesting to the trade are always welcomed by the Editor.

Brevities.

The London Hospital has started Professor Sinsen's phototherapeutic cure of lupus.

The freehold chemist's shop, 176 King Street, Yarmouth, occupied by Mr. T. B. Male, was submitted to public competition on June 26, and withdrawn at 2,200*l.*

The *Globe*, referring to the death of a girl at Barrow from prussic-acid poisoning, protests against the sale of poisons to children, and adds that the law requires strengthening to a material extent.

Charles Parker, Blackith, formerly a chemist at Crewe, and his wife have been bound over by the Crewe Magistrates to come up for judgment if called upon within six months for neglecting their children.

Mr. Budden, of Liverpool, has written to a local paper explaining his belladonna case. Briefly, his explanation is that people want the plaster they have been accustomed to for twenty years—*i.e.*, the kind he sold.

Messrs. Southall Brothers & Barclay (Limited) are to supply the drugs to West Bromwich Workhouse for the next half-year; and Messrs. G. Elliott & Son have got the contrac for olive oil, cod-liver oil, and single and double trusses fo Walsall Workhouse.

At Margate, on June 20, Ferdine von Heer was charged with obtaining 8*l.* 10*s.* by false pretences from Mr. Victor J. Woolls, chemist and druggist, Cecil Square, Margate. Prisoner stated that he took the cheque he gave to Mr. Woolls in a business transaction, and gave it to a woman named Styles (who is now in prison) to change. Accused was remanded in custody.

John Reed, the draper's assistant who has been charged at the Herts Quarter Session for unlawfully attempting to incite one Norton to commit a misdemeanour by supplying a noxious drug with intent to procure the miscarriage of a certain woman at Watford, placed himself unreservedly in the hands of the Court when the case came up last week. Another man was the cause of the young woman's trouble. Reed was bound over to come up for judgment if called upon.

Postal Changes.

Replying to Sir A. Rollit in the House of Commons o June 25, Mr. Hanbury (for the Postmaster-General) explaine the recent delay in the Post-office delivery of letters as bein due to the transference of 2,500 sorters to the Mount Pleasan office. As to the change in the postal hours, in future letter could not be posted at St. Martin's-le-Grand at the forme hours. They would have to be posted a quarter of an hou earlier—at 7.30 instead of 7.45. The regulation as to th posting of letters in letter-boxes with a late fee only applie to the E.C. district. At all the post-offices except S Martin's-le-Grand it would still be possible to post letter with a late stamp.

Chemists' Assistants' Association (London).

The names of the officers who have been elected for ne Session are as follows:—President, Mr. J. A. Dewhirs F.C.S.; Vice-Presidents, Messrs. J. Evans and H. Hymans Hon. Vice-President, Mr. F. W. Gamble, Ph.C.; Ho Secretaries, Messrs. A. F. Goode and A. Latreille; Ho Treasurer, Mr. C. J. Strother; Committee, Messrs. W. Ellis, J. Fothergill, Ph.C., H. A. Martin, C. Morley, Ph.C G. E. Pearson, J. W. Peck, Ph.C., J. M. Taylor, Ph.C.

The Chemists' Exhibition.

By an unaccountable error, the name of our contempora the *British and Colonial Druggist* was incorrectly printed our report of the Exhibition held by that journal at Ma chester last week.

To be Allowed.

At a meeting of the London County Council on June it was agreed, on the recommendation of the Building A Committee, that consent be given to the erection of a buil ing at the Atlas Chemical-works, West Ferry Road, Popl at less than the prescribed distance from the centre of public footpath. It was also agreed to consent to the ere tion of a warehouse on the north side of Middlesex Stre Whitechapel, to exceed in height the width of Cobb Stre as shown on the plans submitted on behalf of Messrs. Dal Brothers.

Birmingham Notes.

Most people at some period of their life have a call fr that interesting parasite, the burglar; and such has recen been the fate of Mr. Barlow, pharmacist, Balsall He Road. The haul was not great.

A new chemist's shop has been opened in Ladypool Roa by Mr. Tyler—under the title of cash stores. As this i thickly-populated district, such may be a necessity, althou the shop has passed through many trade vicissitudes.

The Chairman of the Health Committee has informed grocers that the Committee cannot accede to the requ of their Association to establish a grocers' jury to co-ope with the committee in such work as the administratio the Sale of Food and Drugs Acts.

In replying to the advertisement for an assistant t leading firm of pharmacists, there were only three appl tions, the applicants asking 60*l.*, 70*l.*, and 80 guineas ind respectively. This indicates a dearth of qualified men prevailing high wages when compared with twenty years

Mr. Freeman, who some short time ago opened a pharmacy in King's Heath, and defended successfully a prosecution instituted by the Pharmaceutical Society for illegally carrying on "open shop" for sale of poisons, has sold out by auction. The fixtures and shop were first put up as a going concern, but no offer was forthcoming. The larger part of the stock consisted of oils, colours, and varnishes, the stock of drugs being comparatively small. The prices were fair. A large number of new shops have recently been opened at King's Heath.

The Technical School exhibition of work by the students has attracted a goodly company during the past fortnight. The exhibition of chemical apparatus in the library was most interesting, and consisted of articles used by the Day-school scholars under the guidance of Mr. W. Heller, B.Sc., the head master. The intention was to show the method of teaching known as the "Heuristic," which is said to be favoured by Professor Armstrong, whose pupil Mr. Hellier has been. As far as could be gathered, the system consists in asking the scholar to do certain things with previously constructed apparatus, and to write down the results he obtains. Cards descriptive of each apparatus and their use were shown, and it was observed that such phrases as the "rust" of lead, phosphorus, iron, &c., were greatly used. A series of apparatus illustrating the usual physico-chemical operations was exhibited, and amongst them the methods of making thermometers, barometers, and of taking sp. gr. Under Messrs. C. J. Woodward and W. Russell the chemical department showed an ingenious arrangement for demonstrating that the diamond (chippings weighing about $\frac{1}{5}$ grain were used), when burnt yields carbon dioxide, besides other things. Specimens of drugs, which, however, were not a credit even to a technical school, such as opium and cinchona, were exhibited, together with the alkaloids obtained therefrom. Morphine was closely inspected by a "Mason" student, who was assured by the attendant that it had been extracted from opium by mixture with lime, followed by treatment with benzolated amyl alcohol. A most interesting exhibit in connection with a Baker's class held last year was shown. It was called an improved form of apparatus for measuring the volume of CO_2 given off during the fermentation of Pasteur's solution by means of yeast. In order to prevent the absorption of the CO_2 by the water in the receiving-bottle a layer of oil was used, and the volume of gas was determined by measuring the water expelled by the gas. In a most graphic way good yeast and bad yeast were thus compared. The washing of gluten from flour by a novel process was shown, and numerous products of the bakery art, which, however, were not of the School itself. By the way, Mr. Hellier has resigned his appointment, having obtained a more lucrative and more genial one under the educational authorities in Ireland.

Birmingham Seidlitz-powders.

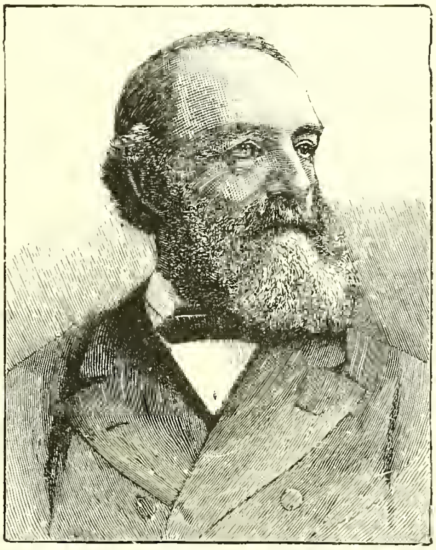
In his quarterly report, Dr. Alfred Hill, medical officer of health and analyst to the City of Birmingham, states that ve samples of seidlitz-powders were submitted for analysis. The four white powders of one lot contained from 14 gr. to 2 gr. of tartaric acid, instead of 38 gr., as directed by the B.P. The four blue powders contained from 116 gr. to 37 gr., instead of 160 gr.; each powder, on the average, ontained 39 gr. of Rochelle salt, instead of 120 gr., while he cheaper ingredient, bicarbonate of soda, was in excess, 5 gr. being present instead of 40 gr. The powders were rong both in quantity and quality, and very unevenly ivided. What made the matter worse was that each pair of owders was labelled as follows:—

> Caution to the Public.—Thousands of boxes of a common mitation of the genuine seidlitz-powders are being sold by unrincipled traders for the sake of extra profit. We guarantee all ur powders to be genuine. (Signed) ———.

The vendor, who is not a qualified chemist, was fined 5*l.* 1897 for selling adulterated glycerin, and the Magistrates ned him 10*l.* and 9*s.* costs in this case—a fine which, adds r. Hill, considering the scandalous nature of the offence, oes not appear to err on the side of severity. Six samples ere purchased under the Pharmacopœia name of "effer-scent tartarated-soda powders." The white powders of one mple contained from 30 gr. to 34 gr. of tartaric acid instead of 38 gr., while the blue powders were practically correct in composition. A fine of 1*l.* and 10*s.* costs was inflicted by the Magistrates. The defendant had been fined 1*l.* in 1898 for selling adulterated compound tincture of benzoin. The blue powders of the remaining nine samples were very uniformly divided, thirty of the thirty-six powders being within 5 gr. of 160 gr.—the proper amount; one powder contained 147 gr. only, and five powders had from 166 gr. to 169 gr. In each case the bicarbonate of soda and Rochelle salt were present in the proper proportions, or nearly so. The tartaric acid in the white papers was not so well divided. One paper contained 33 gr., six from 41 gr. to 43 gr., one had 44 gr., one 45 gr., and the remaining twenty-five papers contained 36 gr. to 40 gr. of tartaric acid. Six samples of friar's balsam received were all of satisfactory quality. They contained from 16·9 grammes to 18·5 grammes of solid matter per 100 c.c., and had a sp. gr. of 0·893. to 0·902.

The New London Sheriffs.

On Monday, June 26, in accordance with ancient custom, the liverymen of the various guilds of the City of London met in the Guildhall to elect sheriffs for the ensuing civic year. Two sheriffs are elected, one an alderman, the other a common councillor. Mr. Alderman Walter Vaughan Morgan and Mr. Joseph Lawrence were duly appointed, there being no opposition to their nomination. Mr. Alderman Vaughan Morgan is the senior partner of Messrs. Morgan Brothers, proprietors of THE CHEMIST AND DRUGGIST. He is also Treasurer of Christ's Hospital, and has served the office of Grand Treasurer of the Grand Lodge of the Freemasons of England.



MR. ALDERMAN WALTER VAUGHAN MORGAN.

An Exeter Outing.

The Exeter employés of Messrs. James Townsend & Son chemists' printers, Exeter and London, held their annual wayzgoose last week, Southampton being the place selected. A company of about 160 persons left Queen Street Station at 6 o'clock, and on arrival at Southampton paid a visit to the docks, where the liner *Kinfauns Castle* was inspected, after which many strolled on the pier, whilst others journeyed to the common. Returning to the Florence Hotel, an excellent dinner was partaken of, the senior principal of the firm (Mr. James Townsend) presiding, and the vice-chairs being occupied by Messrs. W. Townsend and T. J. Taylor. On the removal of the cloth, "The Queen" and the other national toasts having been disposed of, "Our Worthy Employers, their Families, and Prosperity to the Firm" was given by Mr. F. Luxton, who referred to the kindness and interest always shown by the firm to the employés, and the heartiness with which they entered into everything concerning their welfare. Mr. James Townsend and Mr. William Townsend responded, expressing pleasure at seeing so many present, and stating that the business was steadily increasing. Mr. James Townsend next proposed "The Employés of the Firm," for whom Mr. F. S. Crouch, as the oldest employé, replied. After dinner, trips down Southampton Water and the Solent to Cowes were arranged. Some went over to Osborne House and Whippingham Church, whilst others journeyed to Netley Abbey and Netley Hospital by way of the floating bridge to Woolston. Another party proceeded to Winchester to admire the beauties of the old cathedral, the Hospital of St. Cross, and the interesting old city generally. The party left Southampton for home at 8 o'clock, and Exeter was safely reached after an enjoyable day. On the same day the London representatives of the firm dined together at Southend-on-Sea, the journey to Southampton being too lengthy.

Cricket.

Aldersgate C.C. (S. Maw, Son & Thompson) *v.* Heron C.C· (J. Howell & Co.).—This match was played at Denmark Hill on June 23, and resulted in a win for the former, who won easily by 57 runs and two wickets to fall. Scores: Aldersgate C.C., 156 (8 wickets); Heron C.C., 99. The chief scorers for the winners were Messrs. Hopley (54), M. T. Maw (43), and Jones (23).

Misadventures.

On June 22 a domestic servant named Keast, residing at Duloe, swallowed some ammonia in place of "toothache stuff," and was conveyed to the hospital, where she is progressing favourably.

Last week Peter Butt, a road-foreman in the employ of the Bath District Council, drank a quantity of weed-killer containing arsenic and vitriol in mistake for ale. He died almost immediately afterwards.

At an inquest held at Liverpool on June 25, concerning the death of Mary Fell, 13 months old, the evidence showed that a boy 10 years of age, named Molloy, and the deceased were playing together, when the deceased began to cry. Observing two bottles standing on a dresser, Molloy, "thought castor oil would do the baby good," so he poured what he took to be castor oil into her mouth. After swallowing the liquid the child appeared to be in intense pain, and ran away screaming. It was then discovered that instead of castor oil the boy had given "corn-solvent," which was contained in a similar bottle. The child died in the Royal Infirmary. Roger Jones Evans, chemist, 157 Great Homer Street, said the "corn-solvent" was glacial acetic acid—a poison, but not scheduled as such. He admitted that he did not label it "Poison." The Coroner cautioned the chemist against selling the corn-solvent without labelling it "Poison," and strongly recommended that glacial acetic acid should be included in the list of poisons to be sold with greater precautions than had been exercised in the present case.

Carbolic Cases.

At Brentwood, on June 23, an old woman named Smith drank 5 oz. of carbolic acid and died in great agony.

George Ledson, a gasfitter in the employ of the Bolton Corporation, poisoned himself with carbolic acid on June 20.

Mrs. Raven, the widow of a cab-proprietor, lately living in Kilburn, drank a quantity of carbolic acid on June 19 in mistake for porter. She died a short time afterwards.

A 2-year-old boy named Frederick Hobbs, belonging to Plymouth, drank a small quantity of carbolic acid on June 24. He was taken to the Royal Albert Hospital, and is expected to recover.

A Chemist's Suicide.

At Westminster on June 25 an inquest was held on the body of Mr. David Sidney Davies (34), pharmaceutical chemist, of 45 Craven Road, Paddington, who committed suicide on June 20 in Hyde Park by taking a large quantity of prussic acid. Mr. E. Davies, deceased's father, said he received a letter from deceased a few months ago which gave him the impression that his son could not be right in his mind. He sent his daughter to look after deceased. Mr. Arthur Curtis, assistant to Mr. Davies for the past two years, deposed that quite recently deceased had been very depressed, owing, he thought, to business worry. Evidence of the finding of the body and a nearly empty prussic-acid bottle beside it having been given, the jury returned a verdict of suicide whilst temporarily insane.

Bought from the Assistant.

At an inquest held in Sheffield last week regarding the death of Mr. James Barlow, a prominent citizen, it transpired that death was due to laudanum-poisoning. Police-sergeant Wall found that deceased had purchased 1½ oz. of laudanum from Mr. G. T. W. Newsholme, High Street, Sheffield, on the Monday night. He told the assistant that he required the drug for outward application. He was perfectly rational from all outward appearances when he made the purchase. The Coroner said the evidence pointed clearly to the fact that Mr. Barlow had been in the habit of taking laudanum.

The Idris Locomotives.

A peculiar mishap occurred to a road-engine belonging to Messrs. Idris & Co. (Limited) at Maidstone on June 19. The engine, drawing a heavy load of bottles, broke through two iron cellar-flaps, and it was some time before it could be extricated from its difficult position.

At the City Police Court on July 23 James Pearson, in the service of Idris & Co. (Limited), Camden Town, was fined 20*s.* and costs for driving a light locomotive at a pace exceeding four miles an hour, the said locomotive having a van attached to it in which there was no person to apply the brake. Alderman Bell remarked that light locomotives were dangerous at any time, and persons driving them must adhere strictly to the rules and regulations made for their control. Defendant said he did not think he was going at a speed in excess of four miles an hour. He could have had a man to apply the brake, but thought he was going at the prescribed rate.

Wanted the Pewter.

At Bath on June 23, Frederick Henry Fry was sentenced to fourteen days' imprisonment with hard labour for wilfully smashing sixteen syphons with the object of getting the pewter tops to sell. The prosecution was undertaken by the Bristol and District Bottle-exchange Association.

Irish News.

Local newspapers containing marked items of news interesting to the trade are always welcomed by the Editor.

Belfast Fire.

At Belfast on June 22, a fire was discovered to hav broken out on the premises of Messrs. John Clarke & Co (Limited), chemists and druggists, Lawn View Street Owing to the inflammable nature of the contents it was no long before the roof of the building fell in and the stor reduced to a mass of ruins. The damage is covered b insurance.

Using Another Maker's Bottles.

At the Birr Petty Sessions on June 22, Messrs. Bewley Draper (Limited), chemists and druggists and mineral-wate manufacturers, Dublin, summoned Mr. W. Lowry, propriet of the Brandon Mineral-water Works, Birr, for an infring ment of their rights by using their embossed bottle Defendant did not deny the charge, but pleaded that h bottles were, in turn, used by prosecutors in common wit other aërators, and that this was unavoidable, owing to t mixed way in which retailers returned the empties. T Court held the charge proved, but, the case being the fir of its kind in the district, a fine of 1*s.* and costs w imposed.

Failing to Exhibit.

In the Dublin Police Court on June 21, Mr. Rudol Burnes, L.P.S.I., 83 Queen Street, was summoned under t Shop-hours Act for failing to exhibit in his establishme the notice required by the statute. A fine of 10*s.* and 1 costs was imposed. A similar prosecution was institut gainst Mr. Thomas Coulter, trading as Checketts & Co., iemists, also of Queen Street, and a like penalty was iflicted.

Business Changes.

Mr. Cole, L.P.S.I., manager to Mr. R. W. McKnight, arlile Circus, Belfast, has been appointed compounder to ie Royal Hospital. Mr. Cole will devote his whole time to ie duties.

Mr. Elliott, M.P.S.I., Belfast, after a lengthened service as ompounder in the Belfast Royal Hospital, has resigned, and ill devote his entire time to his own increasing business at iaftesbury Square.

Mr. Alfred Duggan has purchased the drug-business at 21 Old Park Road, Belfast, known as Mountview Drug-ores (Mr. Suffers), and will personally manage same in ture. Mr. Duggan has been with the Ulster Chemists Limited), North Street, for several years.

Although Mr. S. Suffers has disposed of his interest in the ld Park Road Branch, he still continues to carry on his entral business in Shankhell Road.

A Lady Analyst.

Miss Hellen Laird, B.A., daughter of Mr. John Laird, Limerick, who took a high place in science recently, has een appointed to the position of analyst in Messrs. Jacob's scuit-factory. Miss Laird also holds a post in the erbarium of the Royal Dublin Society.

Drank the Eye-lotion.

A woman named Sarah Laurence was admitted last week to Sir Patrick Dun's Hospital, Dublin, suffering from the fects of poisoning. An empty bottle which had contained ye-lotion, and was labelled "Poison," was found by the olice in the woman's room, and her daughter, aged 12, said ie saw her mother drink the contents of the bottle.

Scotch News.

ocal newspapers containing marked items of news interesting to the trade are always welcomed by the Editor.

Contract.

The medicine-contract for the next six months for King's ross Hospital, Dundee, has been secured by Mr. A. H. Ross, iemist and druggist, Strathmartine Road.

A New Pharmacy.

The new pharmacy at 16 Port Street, Stirling, opened, as we tely announced, by Mr. John Raffan, chemist and druggist, representative of all that is best in modern pharmaceutical abinet work. The fittings are by Messrs. S. Maw, Son & Thomp-on, London, and are in solid mahogany throughout. There no striking departure from that firm's familiar designs, but iere is a combination of substantiality and elegance which roduces a fine effect. Mr. Raffan has worked in a number of ractical ideas of his own. The shop-rounds are Evans's iield-recess label series, and are tared to facilitate stock-iking. The poison-bottles are ranged on shelves, so that iey are out of reach of the hand without the aid of "steps." he poison-labels are in drawers by themselves away from ie other labels, and the solids and the liquids are in separate awers. Mr. Raffan's opening announcement presents an ex-ellent half-tone portrait of himself.

For Pharmaceutical Students.

It may be mentioned for the benefit of studious appren-ces in Dundee that a cabinet of materia medica is at their rvice, and may be had on application to Mr. W. Cummings, on. Secretary of the Chemists' Association, 49 Reform reet.

A Complicated Debt.

In the Leith Sheriff Court, last week, the Scottish Drug epôt (Limited) sued the Empire Malt-extract Company, anufacturing and retail chemists, 40 Constitution Street, d William Hall, chemist, Leith, and Thomas Bell, 28 Queen reet, Leith, as partners and individuals, for the sum of 1*l.* 7*s.* The defence sought to prove that the debt was not a company one, but a private debt of Mr. Hall. It appeared that the Empire Malt Company was in liquidation, and that Messrs. Hall and Bell were partners. After hearing evidence, the Sheriff gave decree against the Empire Malt Company, and against the Empire Malt Company as in liquidation, and the partners as individuals, allowing 5*s.* for agent's fee.

"Amber Pints and Green Quarts."

Lord Kincairney, in the Court of Session, Edinburgh, on June 22, gave judgment in an action by Friedr. Siemens, managing director of the Aktien-Gesellschaft für Glas-industrie, Neusattl, Bohemia, Austria, and others, against Alex. Reid, aërated-water manufacturer, Dunfermline, for 72*l.* 16*s.*, the price of amber pint bottles and dark-green quart bottles, delivered to the defender in June and July of last year. The defender stated that the order was placed through the Edinburgh representative of Siemens, and was for embossed bottles. When consigned, the bottles did not conform to contract, and were rejected. His Lordship held that the order was for unembossed or plain bottles, and that it was duly fulfilled and delivery made. He accordingly gave decree, with expenses.

A Doctor's Suicide.

Dr. Thomas McLauchlan Brown, of Kelty, who has for some time been acting as assistant to a Kinross doctor, was found lying in a glen near Blairadam on June 25. He confessed to the men who discovered him that he had swallowed half-a-dozen corrosive-sublimate tablets, and died shortly afterwards.

Poisoned by Mistake.

Margaret Mowat, or Brown (75), residing in Aberdeen, who had been suffering from bronchitis and asthma, was given a dose of liquid ammonia in mistake for a mixture prescribed by her doctor, and died on June 24.

The Apprentice Question.

At a meeting of the Committee of the Forfarshire Chemists' Association, held in Dundee on June 21, Bailie Doig presiding, it was unanimously agreed to invite the British Pharmaceutical Conference to Dundee in 1902. The following were appointed delegates to the Conference in London:—Messrs. C. Kerr, A. B. Anderson, James Russell, John Anderson, W. Cummings, Dundee; A. Naysmith and J. Jack, Arbroath; A. Davidson, Montrose. To the Federation:—Messrs. A. B. Anderson and A. Naysmith. Mr. Kermath (St. Andrews) afterwards brought up the question of the training of apprentices. He thought the Association should take steps to get classes arranged for the benefit of their apprentices, so that they might obtain instruction in botany, chemistry, &c., year by year, to obviate the few months' cramming just before examination. Bailie Doig said the facilities in Dundee for instruction on these subjects were ample, and the fees moderate, and yet they had had no success for lack of pupils. It seemed to him that one of the principal reasons for the non-attendance of students was the long hours. It was not reasonable to expect them to show much enthusiasm for study after nine o'clock at night. In this connection he wished to say how much he regretted that the proposal to close the central shops in Dundee an hour earlier during the summer months had failed this year. Another thing badly wanted in order to interest youths in the trade was, Mr. Doig said, an up-to-date volume, on the lines of Christison's, to lie upon the desk so that they could get all the particulars of the preparations they were daily handling brought before them in an interesting way. The Pharmacopœia, with all its merits, was a most unattractive volume to a budding chemist. After a lengthy discussion, taken part in by Messrs. Ford (Kirriemuir), Naysmith (Arbroath), Thomson (Lochee), and others, it was remitted to the President to report on evening classes at the next meeting.

Edinburgh Chemists' Golf Club.

The third competition this season for the "Gibson Handicap Medal" was played last week over the Braids course, with the following results:—First, Mr. Geo. Lunan (Captain), 101 – 10 = 91; second and third, Mr. W. C. Baker, 99 – 3 = 96, and Mr. W. Lyon, 106 – 10 = 96 (a tie).

French News.

(From our Paris Correspondent.)

Dr. Yersin has been awarded the Audiffret prize of 15,000f. (600*l.*) by the Academy of Moral and Political Sciences for his discovery of the anti-bubonic serum. This prize is awarded at regular intervals for the "greatest devotion to scientific discovery."

Anti-cancerous Serum.—At the last meeting of the Paris Academy of Medicine a paper was read on an anti-cancerous serum, discovered by Dr. Wlaieff of the St. Petersburg Military Academy. The Russian doctor has been engaged on experiments with the serum during the past eighteen months, and, it is said, with satisfactory results. He has sent a supply of it to Dr. Hotman de Viliers, of Paris, who is now using the serum therapeutically, and has great hopes for the success of the Russian savant's discovery. Meanwhile, as far as one can learn, Dr. Bra's researches in connection with the parasite of cancer, to which reference was made in The Chemist and Druggist of April 15, 1899, do not appear to have made any marked progress.

The Lavoisier Monument which is being erected on the Place de la Madeleine, Paris, in close proximity to the house in which the famous chemist lived for many years, will be formally inaugurated on July 27 by the French Minister of Public Instruction. The statue has been erected by international subscription under the auspices of the Paris Academy of Sciences. The sculptor is M. Barrias, and the monument will consist of a bronze statue of Lavoisier, on a pedestal, bearing on two sides bas-reliefs showing Lavoisier working in his laboratory with Mme. Lavoisier writing under his diction, and Lavoisier expounding the result of his experiments at a meeting of the Academy of Sciences. The scenes have been created from authentic documents.

The King and the Botanist.—The King of Sweden and Norway recently visited Paris, and became quite a popular figure. Amongst the many pleasant little anecdotes told about him, the following is attributed to M. Bonnier, the botanist. Some years ago M. Bonnier was botanising near Stockholm, when he came across a stranger similarly occupied, and who spoke French. The two botanists soon struck up an acquaintance and returned to the city together, where the Frenchman suggested they should lunch in company. The stranger assented, but added, "You had better come and lunch at my home," and led the way to the Royal Palace, where the military guard saluted. M. Bonnier was more than astonished, but his acquaintance explained apologetically that he happened to be the King of Sweden, and had nowhere but the Palace to entertain in. So the two lunched together and continued their conversation on the subject that had brought them together.

Commercial Journals and Success.—The marked lack of trade journals in France has always been a source of much surprise to British and American business-men who have dealings with this country. In the domain of pharmacy, for instance, there are more than a dozen publications of one kind or another connected with the craft, all having a specified object, such as printing of scientific papers, occasional reports of lawsuits, and the reports of meetings of pharmacists' syndicates, but not one of them can be considered in any way as a commercial journal. The French National Office for Foreign Trade has recently issued a circular to the various Chambers of Commerce and trade associations in France, drawing attention to this and insisting on the valuable services that commercial journals published in Great Britain, the United States, and Germany render to manufacturers in foreign markets. The National Office urges French traders to follow the lead of their competitors, and the Office has taken the initiative by announcing the publication of a commercial journal, the first number of which will be issued shortly. By a pretty compliment Russia well, by her position as the ally of France, enjoy the privilege of the initial issue of the journal. It will contain articles on French goods in the Russian language, which traders there may have an interest in importing to France. In due course other numbers of the new publication, in English and Spanish, will be issued.

South African News.

(From our own Correspondent.)

Rand Chemists Waiting.

(*Cablegram from Our Own Correspondent.*)

Cape Town, June 27, 8.10 p.m.

The prominent chemists of Johannesburg who were forced to leave their businesses during the war are now congregating here and in other coast-towns in readiness to return to the Rand. I learn that there is no immediate chance of permission being given. The delay will probably be two months. Wood, the druggist trooper from Dalston, who was in the Boers' hands, has been recaptured by Lord Roberts.

The Cape Pharmacy Act.—It has been notified in the *Cape Government Gazette* that on and after May 19 the provisions of the Medical and Pharmacy Act, 1891, shall take effect and have force of law in territories of East and West Pondoland; Tembuland, including Emigrant Tembuland and Bomvanaland; Transkei, including Gealekaland.

Trade-marks.—The Rosella Preserving Company Proprietary (Limited), of Melbourne, are applying for registration of their trade-mark consisting of a label device with the words "Rosella Omah" in respect of substances used as food, Class 42.—Messrs. Coulson, Hay & Co., of Melbourne, apply for registration of a crown with "Crown Brand" printed thereon, covering hops, in Class 42; and Messrs. Osborne, Garrett & Co., Soho, W., for the registration of a facsimile of the case in which Kropp's razors are sold, in respect of razors in Class 12.

Druggists' Goods for the Orange River Colony.—I subjoin copies of correspondence which I have had with the Collector of Customs at Bloemfontein in regard to the transmission of druggists' goods to the district:—

Cape Town, May 26, 1900.

Sir,—On May 7 I communicated with the Military Governor at Bloemfontein, in reference to the transit of medicines and medicinal appliances, &c., to various places in the territory hitherto known as the Orange Free State. In the reply received I am directed to pass my application for information through the Collector of Customs, who will recommend, if he approves, that same is extended. My note of May 7 to the Military Governor reads:—

"The question of sending medicines and medicinal supplies through to those portions of the territories reclaimed from the enemy or taken over by her Majesty's troops, and thereby subject to military control and law, is one which prompts me to ask, for general information, when permission to send such supplies forward to, say, Bloemfontein, for example, will be extended.

"The military authorities will pardon my pointing out that on the relief of Kimberley medicines and similar supplies were urgently required; in some instances by public institutions whose supplies had become exhausted owing to the care and attention bestowed on the sick and wounded, and notwithstanding this upwards of three weeks passed before their stocks could be replenished. While Kimberley was thus kept waiting for medica comforts, fruit and vegetables went through every day by rail."

I feel sure the authorities will recognise the importance of th goods referred to in this letter over fruit, vegetables, and wearing apparel. It is a fact within my personal knowledge that such ha not been the case hitherto, and I am speaking from a humane a well as trade point of view.

If the Collector of Customs can give a general communicatio of information on this subject, I will cause the purport of same t be published in South Africa and Great Britain immediately.

I am, Sir, yours obediently,
The Correspondent of "The Chemist and Druggist."

Collector of Customs Office,
Bloemfontein, May 28, 1900.

Sir,—In reply to your letter of May 26, I beg to state tha if particulars of each consignment and the name and address c the consignee are forwarded to me, the necessary Customs Permi authorising the importation of the goods into this colony will b issued, and every possible facility will be afforded for the transpo of them.

Yours faithfully,
(Signed) J. H. Meiring,
Collector of Customs.

Notification of this decision has been made to the local trad through the *Cape Times*, and I desire to call the attention home firms to it.

Pharmaceutical Society of Great Britain.

NORTH BRITISH BRANCH.

The annual meeting was held at 36 York Place, Edinburgh, on June 16, Mr. Peter Boa in the chair. There was a large attendance of members.

Chairman's Address.

The Chairman, in a short address, spoke of the increase in the membership. In 1899, he said, the year in which the new Act came into force, the membership went up from 412 to 570. They had hoped for another substantial increase in 1900, but twenty-three names had to be deleted, and the total membership now stood at 583. He was sorry to see that so many had lapsed, but he fancied it was merely forgetfulness on their part to send in their subscriptions. Some years ago at one of their meetings he suggested that it would be a good thing if the Society had someone to take a run through the country and hold meetings at certain places and explain the connection of the Society with various matters and put before them the advantages of membership. He was not sure that he was very serious at the time in making the suggestion, but a few months after Mr. Michael Carteighe came north and treated them in Edinburgh and elsewhere to a series of expositions of the aims of the Society, and he thought it did a great deal of good. They were all the better for Mr. Carteighe's visit, and he thought it would be a good thing if the Society selected a suitable representative to be continually on the road. (Applause.) There were altogether about 15,600 registered chemists, and, assuming that there were 1,400 in Scotland, the proportion of membership worked out to about 32 or 33 per cent. in England, and about 42 per cent. in Scotland—that is to say, they were about 10 per cent. better in Scotland than in England. So that, so far as their position with regard to supporting the Society was concerned, they in Scotland had no reason to be ashamed of themselves. He thought it was a matter of congratulation to all that they supported the Society so well. He was quite sure they did that with the intention of increasing the prestige and honour of the Pharmaceutical Society in general, and not simply for local purposes. Their efforts were always directed for the general good of the pharmaceutical community. (Applause.) It was regrettable that there had been so large a percentage of failures at the examinations in past years; but it was some satisfaction that for the past two years at any rate there had been a very gradual and steady improvement in that respect. From 33 per cent. one year they had increased to nearly 35 per cent., and in the third year to nearly 39 per cent., of those examined. These failures were no doubt deplorable, but he hoped that when they obtained some slight breaking-up of the Qualifying examinations they would get better results. The Minor examination was at present a somewhat heavy undertaking, and the fact that they had no compulsory curriculum made young men come up for it, perhaps, before they had taken a sufficient course of training. He had nothing whatever to say against a young man doing that. It was quite natural for him to try and get through as soon as possible. He went up and took his chance, and he did not blame him. As to the evening meetings, although many societies which held scientific meetings had had great difficulty in getting suitable papers, he was glad to say they had been quite full up at their evening meetings with very good material. With regard to Mr. Gilmour's suggestion, made at the last Executive meeting, to have a scientific meeting in the forenoon, he was quite sure the General Purposes Committee would do their best during the coming session to arrange that if there was any prospect at all of suitable support coming from the surrounding district. One of the most pleasant features of their annual report was the extent to which the library was used. The increase in the circulation of books was 140 over the year before in town, and, considering that the increase in the year before was 523, the further increase was very satisfactory. In the country there had been a decrease of twelve, but the total increase was still 128. He reminded them that the Society paid the carriage of books one way. The advantages of the library were great. So far as quality was concerned for the purposes in view, the libraries in Edinburgh and London were second to none among the libraries of the country. They had quite a unique museum, but he did not think the facilities for using it were quite as good as they might be. The Executive had the matter in hand with the view of making it more useful by providing greater facilities for examining the specimens. He was afraid he was not a sufficient adept to be able to say anything of much value in regard to political matters. He was aware that the leader of the House of Commons was asked the other day by a gentleman interested in the Companies Bill when it was likely to be taken up; but Mr. Balfour did not choose to indicate what he thought on the matter, so they had no information on the subject at all. He would say, however, that even if the Companies Bill did pass it would be without Clause 2. He thought legislation at the present moment was distinctly unsatisfactory so far as the practice of pharmacy in legitimate ways was concerned, and he did not see that any substantial remedy would be obtained by tinkering at pharmacy by clauses in the Companies Bill. They need not expect any radical improvement until they went the whole hog and tried to get a new Pharmacy Bill. As an example of the disadvantage under which the Society laboured, he mentioned the recent case which occurred not far from Edinbugh, where a lady dispenser was prosecuted for selling poisons in a doctor's shop, and the usual penalty was imposed. But the lady could not pay, and the doctor declined to pay, and he really wanted to ask who was punished in that sort of case. (Several voices: "The Society.") So far as he could see, it was the Society who had to pay all the legal expenses involved. That was merely one example of the distinctly unsatisfactory character of legislation. (Applause.)

Election of Executive.

The Assistant-Secretary then gave in the report of the scrutineers for the election of the Executive. The number of voting-papers sent out was 583; of these 282 were returned, including 4 informal papers, making 278 votes recorded. Eight voting-papers received that day were too late to be included. The result of the voting was as follows:—

	Votes.
Peter Boa, Edinburgh	238
Wm. Little Currie, Glasgow	230
Jas. L. Ewing, Edinburgh	219
Claud Francis Henry, Edinburgh	218
Chas. Kerr, Dundee	207
Alex. Strachan, Aberdeen	201
David Gilmour, Dunfermline	200
Wm. Beaverley Cowie, Edinburgh	194
Robt. McAdam, Glasgow	188
Donald Mitchell, Inverness	177
John Hutchison Fisher, Dunfermline	175
John Tocher, Dumfries	173
James Anderson Russell, Glasgow	169
Alex. Spence, Linlithgow	141
Andrew Naysmith, Arbroath	114
Wm. Doig, Dundee	111
Thos. Dunlop, Pollokshields, Glasgow	102

The above were the successful candidates. The four last-named take the places of Messrs. Ayre (Perth), Bowman (Perth), McLaren (Edinburgh), and Burley (deceased).

The twelve unsuccessful candidates were:—

	Votes.
Wm. Stephen Glass, Edinburgh	101
John Cruikshank, Aberdeen	100
Wm. Potter Wilson, Haddington	97
Colin Allen Macpherson, Edinburgh	85
Andrew Hunter, Edinburgh	83
George Brown Key, Kirkcaldy	79
Chas. Cummings, Dundee	71
Alex. John Dey, Edinburgh	67
David Stewart Robertson, Rutherglen	66
Jeanie Stewart, Dumbarton	66
Archd. Currie, Leith	54
Rea Ireland McDougall, Leith	48

On the motion of Mr. Forgie, seconded by Mr. Lunan, the report was adopted.

The Chairman then declared that the seventeen successful candidates, together with the President (Mr. George Thomas Wilkinson Newsholme), the Vice-President (Mr. Chas. Bowen Allan), Mr. John Johnstone (Aberdeen), and Mr. David Storrar (Kirkcaldy), as *ex-officio* members, would form the Executive for 1900–1901.

Red Tape at Bloomsbury.

A vote of thanks having been given to the scrutineers,

Mr. C. Kerr (Dundee) asked leave to bring a matter before the meeting. He said he was Local Secretary for Dundee, and had charge of the examinations there, and, in view of the new system of examinations, he had had applications for syllabuses and inquiries regarding the examinations by several gentlemen and by young men likely to become candidates. On that account he wrote to Mr. Bremridge, asking for a number of the pamphlets giving the information regarding the new examinations about to come into force. The reply he received from Mr. Bremridge was, "Anyone applying for these circulars, please advise them to write to me for them." He (Mr. Kerr) thought that was a very curt and peculiar reply. (Hear, hear.) He did not think that was the way to get people to interest themselves in the Society. It was not complimentary; and it showed that they wanted real business habits to be brought to bear on the interests of their trade. They (the Bloomsbury officials) did not seem to understand that those circulars should be given freely to young men who were desirous of becoming members of their business. That would do more good than telling them to write to London for them. The probability was that if they were told to do so they would not take any further trouble about it. He thought it was most desirable that local secretaries everywhere should be supplied with these circulars in abundance to give away, as anyone would in advertising his business. (Hear, hear.) They should do everything in their power, in prospect of these new examinations, to circulate information regarding them, so as to attract young men to come forward as apprentices, instead of putting obstacles in their way. Mr. Bremridge was taking a very wrong position in sending him such a letter. A schoolmaster came to him the other day asking for a circular, and he gave him the only one he had. Another gentleman came to him for one, and he had to tell him to write to Mr. Bremridge. He thought that was very hard. Two or three young men had come to him, and he had to tell them the same thing. He brought the matter forward in his capacity of local secretary and not as a member of the Executive, and thought the members should have an opportunity of expressing an opinion regarding it.

Mr. W. L. Currie had great pleasure in supporting what Mr. Kerr said, because he had found some trouble in connection with the same matter himself. It was disgraceful that one individual should have the power of refusing a supply of these materials of information. He would like to ask if Mr. Bremridge was empowered by the Council to make replies of that kind to letters without first consulting the Council. It appeared to him that he bossed the Pharmaceutical Society of Great Britain. They wanted to know whether he was the Pharmaceutical Society or not. (Hear, hear.) He was very much surprised to have put into his hands the other day a booklet issued by a teacher of pharmacy in Scotland, in which he found a complete reprint of the examination-syllabus as an introduction to the prospectus. He would like to ask why it was that a teacher of pharmacy had to put himself to the expense and trouble of reprinting a thing like that. He thought it ought to be had for the asking from the Society's local officials. It was much better printed than the one in the Calendar or the one Mr. Kerr had in his hand, and had the correct and proper spelling and orthography, which was more than could be said of the official pamphlet. (Laughter.) A strong representation should be sent up from Scotland that these things ought to be in the hands of the officials of the Society resident in Scotland. To have to write to London for them was red-tapeism pure and simple.

Mr. Lunan asked if Mr. Kerr was to submit a motion; but Mr. Kerr said he had only thought of bringing the matter before the meeting, as it was desirable they should know how local secretaries were treated.

Mr. McLaren said the Chairman had spoken of the advantage to chemists of using the library more. He would like to know if any member could get a copy of the catalogue of the Edinburgh Library.

The Assistant Secretary: Every member of the Society is entitled to receive a catalogue on applying for it.

Mr. McLaren: He has to apply for it?

The Assistant Secretary: He has to apply for it.

Mr. Kerr: It is well to know that.

Mr. McLaren: That should be advertised freely, for I do not think it is known generally.

Mr. Gilmour wanted to know if it was necessary to write to London for them; and Mr. Currie asked the Assistant Secretary if he could supply any member with copies.

The Assistant Secretary: I am not allowed to supply them.

Mr. Currie: Have you got a supply?

The Assistant Secretary: No.

Mr. Currie: Well, you cannot supply them?

The Assistant Secretary: I have copies of the syllabus for my own use. I apply for them every two or three weeks.

Mr. Gilmour: Would it not be possible for you to ask for 100 or 200, so as to supply local secretaries?

The Chairman: I am afraid he would not be allowed to do that.

Mr. McLaren said there was no doubt Mr. Bremridge had taken very high and unjustifiable ground. He would neither supply Mr. Hill nor the local secretaries. The thing was ridiculous, and a strong representation should be made on the matter.

Mr. Gilmour thought it should go through their own Secretary.

Mr. Currie asked who was the Secretary.

Mr. Gilmour: Mr. Hill.

Mr. Currie said Mr. Hill was only Assistant Secretary. There was a legitimate remedy for this grievance, and they ought to have it laid before the Council in London.

Dr. Coull said he felt very strongly on this matter. He had had some correspondence with Mr. Bremridge about the existence of a certificate that was accepted by the Royal College of Physicians by simply passing certain subjects. Mr. Bremridge said there was a rule that it would not be accepted. He looked through the journals for a number of years, but he did not come across that rule. Mr. Bremridge was entirely wrong and quite illogical.

Mr. Kerr suggested that this discussion would bring the matter before the Council, and would show them the feeling they had with regard to the syllabus.

Mr. McLaren thought it would carry out the idea better if they remitted the matter to the Executive. They represented the members in Scotland, and they should ask the Executive to make a strong representation to London in regard to it. He moved to that effect.

Mr. Currie said the matter had been left in the hands of the Executive, and nothing came of it. It should go from this annual meeting of the North British Branch of the Society.

Mr. Kerr then moved—

> That this meeting represent to the Council that there is a widespread feeling among members that the present arrangements for obtaining papers for examinations is unsatisfactory, and that all such papers should be obtainable from the Society's office in Edinburgh, or from any local secretary.

Mr. C. F. Henry asked if Minor forms were obtainable at that office.

The Assistant Secretary said they were not.

Mr. Henry quoted a portion of a reply he had received from Mr. Bremridge to a letter he had written about the Minor papers and other matters, in which Mr. Bremridge stated that if he had inquired of Mr. Hill he could have informed him "that, with the exception of the Preliminary entry-form, which is non-existent after Tuesday first, the various papers distributable are freely supplied."

The Assistant Secretary: You see it is only what the Secretary regards as distributable. I have none of these papers for distribution. Nor will he supply them. They used all to be obtainable here.

The resolution was seconded by Mr. Robertson, and unanimously adopted.

The Scottish Membership.

Mr. **Gilmour**, referring to the question of the membership, said the Society never could be strong with a membership of only 583 out of 1,400, and he suggested that Mr. Hill should be let free for a certain time each year to visit local secretaries, and with them see the non-members, either at meetings, or, better still, by calling on them. He was pretty sure that by doing so they would get 50 per cent. of the outsiders right away. He did not know how far they ould make a rule or order that Mr. Hill should be set free or this purpose; but in whatever way it would be in order e would be quite prepared to move.

Mr. **Henry** said the Secretary would not be able to do it n account of his other duties.

Mr. **Forgie** endorsed what Mr. Gilmour had said. He hought a visit from Mr. Hill or any other travelling secretary would be of great benefit to the Society.

Mr. **Lunan** said they would have to appoint a man from ondon occasionally. Mr. Hill's time was too well aken up.

The **Chairman** said he understood that what Mr ilmour wished was a visit from a secretary somewhat after e manner in which an insurance company sent a man to sit the local manager. If there were any grievances gainst the Society he might be able to explain them away.

Mr. **McLaren** said Mr. Hill sometimes took a trip to undee or Arbroath in the interests of the Society, and he d so invariably at his own expense. He thought that was most unfair and unworthy thing on the part of the ociety. When Mr. Hill went out as an official of the ociety all his expenses ought to be paid by the Society.

Mr. **Henry**, referring to the Chairman's statement that ere were 42 per cent. of the registered chemists in Scotland embers of the Society, against 33 per cent. in England, id he had seen official statements to the effect that the embership was much lower in Scotland than in England, d that they were not doing much for the Society.

This was all the business, and the meeting ended with tes of thanks to the Chairman and the retiring Executive.

War Notes.

The **Imperial Yeomanry Hospital** at Deelfontein, Cape lony, publishes its own journal now, under the title of e *Devil's Fountain or Deelfontein Gazette*. The editor is . F. Newland Pedley, and press censor, Colonel Sloggett. e journal is typewritten, consists of some fourteen pages, lscap size, and in its green cover presents a very art appearance. The first edition of 250 copies was sold within a few minutes of publication, as much as 5*s*. being d for copies. The editor tells his readers that a small nting-press is on the way, which he hopes to have in sition in time for the next issue.

ivil-Compounders' Experiences.—From Kroonstadt trict, O.R.C., a constant contributor sends us the following ers, which throw local light on the rapid marching of d Roberts's army to the Vaal River:—

"Some place I don't where,"
About fifty miles S. of Kroonstadt,
May 8, 1900.

ome of the few other fellows I have knocked up against don't m to be enjoying themselves too well. They don't like short ons, forced marches, exposure, and lice; but personally I ld not have missed it for anything I possess. Our commanding er is a real brick, and that means a lot, and I have managed hoose my pals judiciously. I and the quartermaster-sergeant uac together, and any extras that are going—such as a bit of r or kidney—that come his way in drawing supplies I share I was a bit sick at Karree with a touch of fever, and he ted to force brandy and Bovril down me every ten minutes.

he last time I wrote we were at Glen, acting as a division of ld-hospital. After a week of that we got a peremptory order ejoin our brigade as bearer-company. Weren't we glad! It s one the blues sticking in a field-hospital. Imagine a small tent (that for any comfort at all for the inmates can accomate ten) with fourteen sick. We got flooded out at Glen, and poor fellows lay in their tents that night in an inch of water. tent blew over completely. I couldn't help laughing at the some of the C.I.V.'s took the discomfort. "Tommy" is a bit of a stoic and says nothing; he knows it's no use. We had 250 sick in camp. Our first move was to rejoin the brigade at Kleinos Spruit. Awful travelling it is for transport. It beats me how we manage to get over the drifts at all. We have to hang on behind with drag-ropes going down, and pull like anything you know the other side, sometimes sticking in the middle. The day before yesterday we smashed an ambulance-waggon coming over boulders of rock down the side of a kopje, and had to abandon it. To add to our grief a particularly awkward drift had to be crossed about a mile further on. The spare mules from the ambulance had been spanned into the buck waggon, making a team of twenty. Coming blundering along through the drift they got mixed up, a wheel hung on a boulder, and over went the whole show—kits, boxes of biscuits, bully beef, all our baggage—into the water. The driver had seen what was coming and took a flying leap. There was a sick man sitting up beside him not so fortunate, and he had to be contented with a broken leg, and lucky to get off with that. We stopped at Krang Kraal a week, and had a good time—played cricket and had plenty of food and water. Then the forward movement commenced, and we started footing it again. We had a skirmish at Brandfort Hill. Our ambulance was of course driven right up to the firing-line and shelled properly. Didn't we double back! This fight delayed us a day and a half. We occupied a farmhouse at Zoetfontein, and looked after the wounded. The wounds were nearly all caused by shrapnel from the pom-poms, but we also extracted several Dum-Dums. We sent back the wounded by a convoy, and left Zoetfontein at double-quick time, as the engineers came to blow up the place. We had the satisfaction of seeing the whole show soar heavenwards before we were out of sight. That day we marched twenty-five miles, and caught up the brigade. F. W. S.

Kroonstadt Camp,
May 18, 1900.

Since I last wrote you we have continued our march, our brigade forming part of the central army of the three columns sweeping through the Free State. After some stiff marching on the way, fighting a small battle at Brandfort Hill, we halted a day at Oifontein. If a day's rest is determined on we do not get up till 6, and spend the day in washing our scanty wardrobes if water happens to be plentiful, and we haven't suffered from want of it lately. From Oifontein we pushed on to Zand River drift, where we expected a great resistance. The position of the Boers was very strong. To cross the river with our huge convoy we had to descend a sloping hill into the bed of the river over the drift which was a beast, and across a plain on the other side, the hills commanding which were held by our brother Boers. They allowed our artillery to get right into the drift before starting to shell, and then the beastly pom-pom began from the right, and a Long Tom from the left. That pom-pom is a very disconcerting gun, very trying to the nerves, especially at short range. At Brandfort the Boers shelled our ambulance and a shell burst just in front of us. But our artillery had taken up a position over night, and they opened a heavy fire upon the Boer position, while we were highly elated to suddenly hear a boom from the left, and saw the left column had got into range and were using their heavy guns. That finished it; the Boers fled with our cavalry after 'em. Our casualties were very slight. After that we finished up twelve days very heavy marching by reaching Kroonstadt, where all available buildings are turned into hospitals. There is a tremendous amount of sickness, and little wonder; men need be made of cast iron to stand this kind of thing. The nights are intensely cold now, but we have just the same equipment we started with in the middle of summer, save that our thin clothes are quite worn out and full of holes. The shops are all shut up and empty, except one, where baby-linen is retailed, but that's not much use to us just now. There is a large hospital in town conducted by Hollander and French doctors and Hollander nurses. They are very kind to our soldiers, and spare no trouble to alleviate their sufferings. It was quite a treat to see them in clean beds and spotless wards, with plenty of medical comforts and nursing, after having to see them seriously ill, some dying, on the hard ground with only a couple of blankets round them, and the night bitterly cold.

F. W. S.

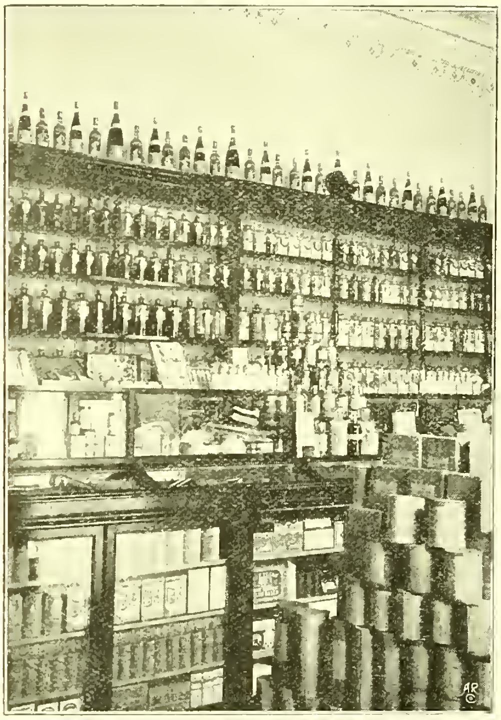
The business premises occupied by Mr. D. T. Wilkie, chemist and druggist, High Street, Tenterden (Kent), have been purchased privately by Mr. Stevens, of Dover, for 500*l*.

The Wallsend Co-operative Society (Limited) are opening a drug-department in connection with their stores at Wallsend. Mr. A. Gaddes, late of Inman's (Limited), Newcastle-on Tyne, has been appointed manager.

Mr. W. C **Fitzgerald**, chemist and druggist, of Wellington, New Zealand, is rebuilding his pharmacy. It is being fitted up in a very handsome style, and will contain a dispensary, ladies' room, surgery, waiting-room, laboratory, and wholesale department. The new premises are to be completed by October 1 next.

A Pharmacy in China.

At the present time the centre of war interest is shifting from South Africa to China, and one of our subscribers in Shanghai sends us a photograph of a new pharmacy which he has opened there, and which we reproduce. It is a reminder that we have *confrères* in the Far East. The pharmacy is that of Mr. Paul O'Brien Twigg. It is new, having been opened at No. 10 Broadway, Shanghai, on April 16, last. Mr. Twigg was born in Kent, and was taken to Shanghai when an infant. He was subsequently apprenticed to a firm of chemists there, and after serving three and a half years, returned home, where he remained five years to complete his education. Passing the Minor in 1889, he left for Shanghai soon afterwards, where he was in charge of a branch pharmacy till March of this year. Having lived so long in the country and being able to speak Chinese fluently, he has excellent facilities for doing a good business with Chinese and Europeans. The photograph was taken by a Japanese, and it gives an idea of the fittings, which were made by native cabinet-makers. Nearly all the chemicals and druggists' sundries were from Messrs. Evans, Lescher, and Webb, and the proprietary articles from Messrs. Francis Newbery & Sons.



Westminster Wisdom.

The Companies Bill.

In the House of Commons on June 26, Mr. Ritchie, President of the Board of Trade, in moving the second reading of the Companies Bill, said although there was reason for amending company-law, there should be no unnecessary interference with companies in the management of their business, and the law ought not to be made so oppressive as to deter the best kind of business man from engaging in company-work. It would be a great evil if the management of companies passed into the hands of professional directors. The Bill before them dealt with the position of directors who acted without a qualification or took gifts of paid-up shares, and it provided against bogus or fictitious subscriptions. The minimum subscription on which directors would go to allotment was to be stated in the prospectus, and a company was not to commence business until shares had been allotted to an amount not less than a minimum subscription, and until three-fourths of the amount payable on application and allotment had been received. Provision was made also for a return of the allotments to be made to the Registrar within seven days, so that investors might see who their co-partners were. The prospectus also was to contain a statement of the amounts paid to vendors or promoters, and also of the consideration for such payments. The public were to be told what had been paid and the amount of the shares that had been underwritten. All mortgages of the estates of the company were to be registered and open to public inspection, and mortgages not registered were to be invalid.

The clause relating to chemists and druggists had given rise to a very considerable amount of discussion, and a very large amount of opposition. There were clauses dealing with the sale of drugs, and also with the carrying on of medical practice by a company. He had received representations with regard to that provision numerically one hundredfold in excess of those with regard to any other provisions in the Bill, both for and against. He did not think these provisions were really very germane to the Bill. He had no doubt that they, or others analogous to them, would be a very beneficial alteration of the law; but he was bound to say they were not in an appropriate place in a Bill amending the Companies Act, and if they were to be dealt with, it would be much better they should be dealt with in a separate Bill, rather than introduced in the Bill before the House. Further, it would be for the House to decide in committee whether or not they should be proceeded with, or struck out of the Bill, and relegated to some other Bill at some other time.

After further discussion, the Bill was read a second time without division.

Mr. Ritchie then moved that the Bill be referred to the Standing Committee on Trade. The discussion of such a complicated measure was, he remarked, more businesslike when undertaken by the Standing Committee rather than by a committee of the House, and there would be an opportunity when the Bill came back at report-stage to discuss any particular matter. He hoped the House would support the Government in their anxious desire to pass this measure into law. Mr. Arthur Balfour, in support, said there was no probability that the discussions in the Standing Committee would be of a protracted character; he should imagine that one or two days at the outside would be sufficient to deal with the Bill. That, at any rate, was the opinion of those most qualified to advise him on the matter.

The House divided, and the motion for referring it to the Standing Committee on Trade was carried.

The members, whose names are taken from the Votes of the House of Commons and who compose the Standing Committee referred to, are:—Mr. Attorney-General, Mr. Baird, Lord Balcarres, Mr. Baldwin, Mr. Beckett, Mr. Broadhurst, Mr. John Burns, Mr. Burt, Sir Charles Cayzer, Mr. Chancellor of the Exchequer, Mr. Channing, Mr. Cohen, Mr. Jesse Collings, Sir John Colomb, Sir Charles Dalrymple, Mr. Daly, Mr. Doughty, Mr. Duckworth, Mr. J. P. Farrell, Sir Robert Penrose-FitzGerald, Sir Henry Fowler, Mr. Galloway, Sir Edward Gourley, Sir Reginald Hanson, Mr. Harrington, Sir Alfred Hickman, Sir Edward Hill, Sir William Houldsworth, Major Jameson, Mr. Jeffreys, Sir James Joicey, Mr. Kemp, Sir Thomas Lea, Sir Elliott Lees, Mr. Lloyd-George, Mr. Walter Long, Colonel Long, Dr. MacDonnell, Colonel Mellor, Sir Samuel Montagu, Mr. Charles Morley, Mr. Oldroyd, Mr. Parkes, Colonel Pilkington, Mr. Power, Mr. Provand, Sir James Rankin, Mr. Renshaw, Sir Thomas Richardson, Mr. Ritchie, Sir Albert Rollit, Mr. Round, Mr. T. W. Russell, Mr. Seton-Karr, Mr. Thomas Shaw, Mr. T. H. Sidebottom, Sir Barrington Simeon, Mr. Samuel Smith, Mr. Strachey, Mr. James Stuart, Mr. Tennant, Mr. Tomlinson, Mr. Tully, Mr. George Whiteley, Mr. John Wilson (Durham), Mr. John Wilson (Falkirk), Mr. Wolff, and Mr. Samuel Young.

As soon as the Bill was read a second time various notices of amendments were given in, including two by Sir A. Rollit to leave out Clauses 2 and 3, and one by another member to provide that Clause 3 shall not prevent a company from making a contract with a doctor. On Wednesday Mr. Harwood gave notice to leave out dentists from Clause 3, and to place them on the same footing with chemists and druggists in Clause 2.

Registration of Firms Bill.

The Select Committee of the House of Commons on this Bill met on June 25, Mr. H. D. Greene presiding. The Incorporated Law Society had sent a communication with certain criticisms and amendments of the Bill; the Manchester Law Society thought the Bill should expressly extend to solicitors and medical men carrying on business in other than the full or usual names of all the partners. The Faculty of Procurators of Glasgow severely criticised the Bill, because it would have a ruinous effect on the small trading partnerships amongst squads of workmen, fisher-folk, as well as those in the tailoring, dressmaking, and kindred trades in Scotland, where the labouring classes go in largely for the principle of partnership.

Mr. John Smith, C.B., Inspector General in Bankruptcy and in the Liquidation of Companies, gave evidence. He saw many departmental and local difficulties, but admitted that many evils would doubtless be removed if the public had the means of knowing with whom they were transacting business. One evil had come specially to his notice in the administration in bankruptcy—namely, the great difficulty n dealing with firms against which a receiving-order had oeen made, but where penalties could not be enforced oecause of the impossibility of ascertaining the names of the oartners. He knew of no fewer than five cases where justice iad been defeated in this respect. He could not think that small traders would resent the Bill if they got notice before oenalties were enforced. He suggested with reference to such cases as those referred to by the Faculty of Procurators of Glasgow that such special cases might be excluded from he operation of the Bill.

Midwives Bill.

The report stage of this Measure was reached on Wednes-lay evening, June 27, when Sir John Batty Tuke supported he Bill in his maiden speech, speaking on behalf of the ieneral Medical Council. Dr. Farquharson also supported it, out Sir Walter Foster and others opposed its passing, and he Bill was talked out. It was again in the orders of the lay for Thursday. It is remarked in the House that Sir ohn Batty Tuke is the double of Lord Roberts.

Trade Notes.

Messrs. C. J. Hewlett & Son, 40–42 Charlotte Street, E.C., ill close on June 30 for the day, on the occasion of the nnual excursion of the staff.

Messrs. G. B. Kent & Sons intimate that, owing to the nhanced prices of bristles, painting-brushes for all orders ceived after June 30 will be advanced 10 per cent., and ilet-brushes 15 per cent.

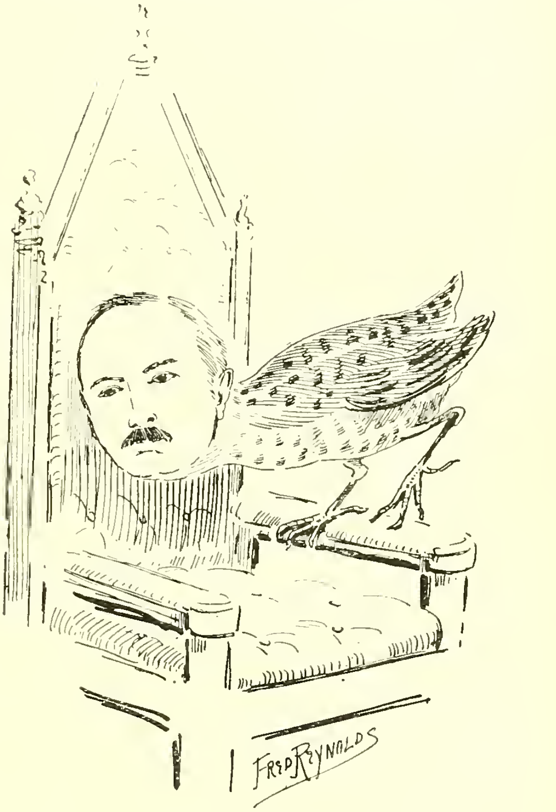
Dr. Williams's Pink Pills for export will be 23*s.* per ozen net after July 1. That is an advance in price, and iose ordering for export should state to the British Depôt, Holborn Viaduct, E.C., what market the goods are tended for. The reason for this is stated in an advertise-ent in this issue.

Sodium Phosphate.—Messrs. May & Baker (Limited), attersea, S.W., inform us that although it is possible to get e reaction for arsenic in commercial sodium phosphate, in hich it is always present in exceedingly minute quantities, ey have on the market an article from which arsenic is aranteed to be entirely absent. Now that attention has en drawn to the presence of arsenic in sodium phosphate, is very desirable that pharmacists should stock a pure ticle.

Solex Ipecacuanhæ is one of the galenicals which we ve had on trial this week. It is made by Messrs. etcher, Fletcher & Co. (Limited), Holloway, N., and is a ndardised preparation containing 0 8 gramme of alkaloids 100 c.c. It is made from Brazilian ipecacuanha, and fers from the B.P. liquid extract in being perfectly soluble in sherry. One volume to seven volumes of sherry make a perfectly clear vin. ipecac. There is a slight turbidity on standing for some time, but it is scarcely sufficient to warrant filtration, although the makers advise this. The solex is an excellent galenical, and its freedom from the overplus of inert matter which the official liquid extract contains is a distinct advance.

Drug-lists.—Messrs. T. Howard Lloyd & Co. have just removed their offices, warehouse, and drug-mills to new premises in St. James's Street, Humberstone Gate, Leicester. The premises have been especially adapted for the business, and with a view of facilitating pharmaceutical operations. In sending us notice of this removal Messrs. T. Howard Lloyd enclose copies of their five price-lists, which cover the whole range of trade and professional requirements. The lists are—(1) the monthly price current, in which galenicals and chemicals are quoted; (2) the chemists' supplement, consisting of particulars of specialities put up for retail trade; (3) the pill price-list, in which are included lozenges, tablets, and medicine-chests; (4) an illustrated catalogue of surgical instruments, giving particulars of medical appliances and accessories in use by medical men; and (5) the veterinary supplement, in which bi-conical horse-balls and such-like products of veterinary pharmacy find a place. The lists are carefully compiled and illustrated, so that buyers can compare the style and prices of the goods mentioned.

The Pharmaceutical Aviary.



The Provincial Bird.

This fledgling is a native of the Yorkshire moors, but has been reared in Sheffield. Is well-known in Bradford, where it once trilled a song about the secretary birds who gather food for the pelicans in the aviary. So the secretary birds sit round it with cocked heads when they meet it, and the aviary birds have given it the highest perch. Is still cheerful, and a guardian to the sparrows.

From 42 Cannon Street.

Gone to Cookham.

On Friday, June 22, the staff at 42 Cannon Street, E.C., had a trip up the river. The picture and the poem refer to this. The picture was taken by one of the staff on the lawn of the Ferry Hotel, Cookham, after lunch.

When the Spring has turned to Summer, and the roses 'gin to bloom,
And the purple blossoms cover Winter's bier,
Then our burdens seem to lighten, as the sunbeams chase the gloom,
And our long-expected Outing-day draws near.
Though we scribble quite sedately, yet our thoughts are not on work,
And the visions that we conjure fan the flame,
For we dream of laughing rivers, where no sombre shadows lurk,
And each one finds his neighbour dreams the same.
Till in mood elate and merry,
Forth we hie to Cookham Ferry—
Lovely Cookham, with the inappropriate name.

In the famous Rue de Cannon all is desolate and dull,
An unearthly stillness reigns in Forty-two;
And the passing pilgrim marvels at the unaccustomed lull,
And the "stranger" chemist knows not what to do.
For his Mecca is forsaken, and no human is sight,
Save the portly guardian-angel with the broom,
And she greets him with the tidings that the staff has taken flight,
And has gone to listen to the bittern's boom.
Gone, their cares and woes to bury
In the joys of Cookham Ferry—
Gone to Cookham, where no inky pages loom.

'Twas on June the twenty-second, and the elements were kind
(At the banquet triple toasts we gaily pledge);
Gently puffed then up the river, each in happy frame of mind,
Bound for Henley, there to ramble by the sedge.
So with tea and fun and music swiftly sped the day along,
Till the darkness and the thunder warn us home,
And with full enjoyment sated and a dedication-song
Softly warbled to the billow and the foam,
Home we hied from Cookham Ferry
(Every maid with her equerry)—
Peaceful Cookham, smiling sweet 'neath Heaven's dome.

Business Changes.

Notices are inserted free in this section if properly authenticated.

The Timothy White Company are opening a branch at High Street, Deal.

Mr. W. J. Davies has purchased the chemist's business of Mr. J. Grinsted at Church Street, Brighton.

Messrs. Minnikin & Co., chemists, High Street, Ramsgate, have sold their business to Mr. Smith, late of Weston-super-Mare.

Mr. H. G. Wildman, chemist, late of 88 Norwood Road, S.E., has purchased the business of Mr. E. Tharp, 9 North Street, Chichester.

Mr. C. E. Boultbee, of Sutton, has purchased the business of Mr. Brindley Grice, pharmaceutical chemist, of Rosendale Road, West Dulwich, S.E.

Mr. F. W. Jackson, chemist and druggist, Ashton-under-Lyne, has had his Trafalgar Pharmacy refitted in tasteful design by Mr. J. Cowper, of Liverpool.

The chemist business carried on for so many years at Queen Street, Barnsley, by the late Mr. Frank Johnson, and later on by his nephew, Mr. Henry Johnson, has been taken over by Mr. E. Nash, pharmaceutical chemist, who was formerly an apprentice with Mr. Edward Horne, Market Hill, Barnsley.

Arsenic in Sodium Phosphate.

How to Test for It.

By F. C. J. Bird.

THE occurrence of a dangerous amount of an arsenical compound in certain samples of effervescent phosphate f sodium, which formed the subject of a leading article in ast week's issue of THE CHEMIST AND DRUGGIST, renders mperative the immediate examination of all stocks of this reparation and of the crystalline salt itself held by retailers hroughout the country. No reference is made to this imurity in the Pharmacopœia under "sodii phosphas," and as inute traces of arsenic appear to be a frequent accompaniment of the salt when prepared from bone-ash, as officially escribed, it becomes a matter of considerable importance, ot only to be able to detect traces of the metal by a simple est, but also to gain an approximate idea of the amount resent.

The arsenic appears to exist in phosphate of sodium as rsenate. Marsh's test is inconvenient, and not so well ited for the detection of minute traces as either the zinc nd potassium hydroxide test for arsenium given in the B.P., r Gutzeit's. The former (Fleitmann's reaction) is best odified in the well-known manner by replacing the zinc y aluminium-foil, as the action is much more energetic, nd the hydrogen comes off readily in the cold or at a gentle eat. An erroneous estimate may be formed of the proporon of arsenic present if the precaution be not first taken to cidify the solution of phosphate with sulphuric acid, boil ith excess of sulphurous acid (the ebullition being connued for a few minutes after the steam has ceased to dden litmus-paper), and finally render the liquid alkaline ith potassium hydroxide, and a blank experiment with the tassium hydroxide and aluminium alone should always be ade.

Phosphate of sodium containing heavy traces of arsenic, en tested by this process, without previous reduction, gives rdly any stain at first on nitrate of silver paper placed as cap over the tube in which the operation is being performed, but on allowing the evolution of gas to continue for considerable time the stain becomes gradually deeper. If e arsenate be first reduced, and the whole of the excess sulphurous acid removed, an intense black stain is tained almost immediately from the same sample of osphate. When the action is allowed to go on for any gth of time slight staining of the silver paper from other uses than the presence of arseniuretted hydrogen often kes place, and an element of uncertainty is introduced

Gutzeit's test, as applied to the detection of arsenic in ycerin by L. Siebold, and subsequently by Paul and wnley, is not open to this objection; it is therefore to preferred, especially as it can be utilised in obtaining a gh quantitative result. As the depth of the yellow colour oduced by arseniuretted hydrogen on mercuric chloride per depend on the extent of the prepared surface exsed to arsenical vapour, and also on the rate of evolution the gas (this latter being influenced by the surface of c interacting, strength, and quantity of acid, temperature, .) it is obvious that for even roughly comparative results ilar conditions must, as far as possible, be observed. eat care must also be taken that the influence of phuretted compounds is eliminated from the test, otherse the yellow stain produced on mercuric-chloride paper hydrogen sulphide may be set down to the presence of enic, and may produce quite a wrong impression of the gree of impurity of the sample. If a drop of sulphurous d be added to a mixture of zinc and hydrochloric acid evolving pure hydrogen, and the gas allowed to come into contact with mercuric paper, a yellow stain is produced almost indistinguishable from that obtained with hydrogen arsenide. To remove this source of error oxidation of the sulphur compounds with iodine was recommended by Siebold, and later, in conjunction with starch mucilage, by Paul and Cownley, the presence of excess of iodine, which has a retarding effect on the formation of hydrogen arsenide, being in this way avoided. Arsenates behave differently from arsenites in relation to the nascent hydrogen of Gutzeit's test, the former requiring a much longer time for reduction and producing a fainter stain. In one experiment in which $\frac{1}{20}$ mgrm. of sodium arsenate was submitted to the test side by side with an amount of arsenious acid containing its equivalent in metallic arsenic, the yellow stain from the arsenate, after fifteen minutes, possessed about only one-fourth of the intensity of colour of that from the arsenious acid. For this reason, when Paul and Cownley's modification of Gutzeit's test is applied to the examination of sodium phosphate, the arsenical solution used for comparison should be made up with sodium arsenate.

As a preliminary to the actual test, a blank experiment with the materials is performed as follows:—Take two conical 50-c.c. flasks, and in each place a rod of pure zinc 1 inch long by $\frac{5}{8}$ inch diameter (a size easily obtainable). Mix 10 c.c. of pure hydrochloric acid with 50 c.c. of water, add a little starch mucilage and sufficient weak iodine solution (1 c.c. B.P. vol. sol., 99 c.c. water), drop by drop, to communicate a permanently faint but distinct blue colour after warming gently for a few minutes. Divide the liquid equally between the two flasks, plug the neck of each with a light tuft of cotton-wool to prevent spurting, and close the mouths of the flasks with discs of filter-paper kept in position by superimposed watch-glasses, the one paper having been prepared with lead subacetate and the other with mercuric chloride. Circles of the diameter of a threepenny-piece should be drawn with a lead pencil on each filter-paper, and solutions of mercuric chloride (1 in 20) and liq. plumbi subacet. respectively applied to the spaces within the lines by a glass rod. The mercuric paper is to be dried before use.

After the reaction has continued for half an hour, not the slightest discoloration should be discernible on the mercuric-paper, and nothing more than a pale-brown stain on the lead-paper. The latter should be inspected from time to time during the experiment, and immediately any darkening of the lead-paper is noticed one drop of weak iodine solution should be added to each flask, and so on as often as may be required to prevent any further increase in the discoloration.

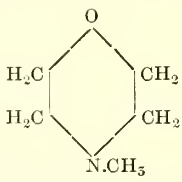
The testing of the phosphate is then proceeded with by dissolving 10 grammes of the salt, or its effervescent variety, in a little water. This solution is faintly acidified with hydrochloric acid, made up with 10 c.c. of hydrochloric acid and sufficient water to 60 c.c., starch mucilage and weak iodine solution added, and the whole gently warmed for a few minutes, the iodine being kept in sufficient excess to maintain a permanent pale-blue colour. The liquid is divided equally between two 50-c.c. conical flasks containing the zinc, and furnished, one with lead and the other with mercuric papers. If necessary, iodine is added from time to time as before, and at the conclusion of the experiment the stain on the lead-paper should be a very pale brown only, and the mercuric spot either colourless, yellow or through all the gradations of deep yellow to orange, according to the absence of arsenic or its presence in small or large proportion.

One-twentieth of a milligramme of anhydrous sodium arsenate gives a pale sulphur-yellow spot at the expiration of half an hour, but a third flask, with the phosphate omitted, and containing $\frac{1}{20}$ mgrm.* of sodium arsenate, should always be made up, and worked side by side with the others as a standard of comparison, and if the colour of the stain produced from the 5 grammes of sodium phosphate under examination be about the same, the sample may be assumed to contain about 1 of anhydrous sodium arsenate in 100,000, equivalent to 1 of metallic arsenic in 250,000 (Na_2HAsO_4 184·78 = As 74·75, or approximately 2·5 parts arsenate = 1 part of arsenic). If the stain appear deeper it is only necessary to dissolve a second 10 grammes in water, acidify slightly to acid reaction, and make up to 50 c.c. (5 c.c. = 1 gramme), taking as much of the solution as may be thought necessary for another experiment, and increasing the volume of the quantity taken to 60 c.c. by the addition of water and acid. The test is then repeated until a stain is obtained about equal in colour to that yielded by $\frac{1}{20}$ mgrm. of arsenate, and from this a rough idea of the proportion of arsenic present may be arrived at by calculation.

If the occurrence of slight traces of arsenic in sodium phosphate is unavoidable, the amount of this impurity permissible is a question which will have to be settled. The maximum B.P. dose of either sodii phosphas or sodii phosphas effervescens is ½ oz., which, for convenience of calculation, can be taken as 220 gr. (218·75 gr.), and if in this quantity 1 part of sodium arsenate in 100,000 were present as an impurity, the maximum dose of the phosphate would contain about $\frac{1}{450}$ gr., or about one-eleventh of the minimum dose of sodii arsenas B.P. This, however, is a matter dependent on medical opinion and the possibilities of manufacture, and which, doubtless, will be very thoroughly discussed in the near future.

New Morphine-derivatives.

THE most important paper to pharmacists communicated to the Chemical Society last week was Part I. of a research on morphine, by Dr. S. B. Schryver and Mr. F. H. Lees, of the Wellcome Chemical-research Laboratories. In the preliminary part of the communication they gave a *résumé* of the literature on the constitution of the alkaloid, thus leading up to the researches by Knorr, which led him to conclude that morphine is a tertiary base containing a nitrogen united to a methyl group, and two hydroxyl groups —one alcoholic, the other phenolic in character—as well as a phenanthrene complex. Knorr, therefore, concluded that the alkaloid is either an oxazine or a derivative of methyl morpholine :—



The latter supposition being adopted, morphine resolves itself into a quadruple-benzene ringed compound. The researches recorded in the present paper were undertaken with the object of determining the influence of the various groups on the physiological action of the alkaloid, and to obtain some further information as to the way the various complexes are combined together in the molecule. Stockman and Dott, Merck and v. Mering, and Dreser have prepared various acidyl and alkyl derivatives of morphine, and determined their physiological character; and, as a result of the work of some of them, several new products have been placed on the market, such as dionin (ethyl morphine hydrochloride), heroin (diacetyl morphine hydrochloride), peroni (monobenzyl morphine hydrochloride). In all these derivatives the narcotic action of morphine is more or less modific Dr. Schryver and Mr. Lees have replaced the hydroxyl grou of the alkaloid by the elements chlorine, bromine, an hydrogen, and have obtained a new series of products whic are entirely devoid of narcotic action—viz., chloromorphid $C_{17}H_{18}O_2NCl$, obtained by the action of phosphorus trichloride on morphine, is a crystalline product melting a 190° C. with decomposition, and gives beautifully crystalline salts.

Bromomorphide, $C_{17}H_{18}O_2NBr$, is obtained in a simila manner.

Desoxymorphine hydrochloride, $2(C_{17}H_{19}O_2N.HCl)3H_2O$, i obtained by the reduction of chloromorphide by tin an hydrochloric acid.

On treatment of chloromorphide and bromomorphide wit water, these bases decompose, giving rise to the haloid aci salts of new bases. In the case of bromomorphide, th reaction may be represented by the equation—

$$C_{17}H_{18}O_2NBr + H_2O = C_{17}H_{19}O_3N.HBr.$$

The product thus obtained is isomeric, but not identica with morphine. It is a crystalline base, soluble in hot wate and melts at 274°-276°. Its salts are very soluble in wate and are more strongly lævorotatory than those of morphin The chemical relation of this base to morphine has not y been determined, but it is entirely devoid of narcotic actior and it is probable that the morpholine ring has been entirel split up, as it has been shown by Knorr and Leubuscher th various simple synthetic morpholine-derivatives have nearl the same physiological action as morphine.

Finally, the authors called attention to the marked differ ence in the optical properties (specific rotation in degrees) the new bases and their hydrochlorides and hydrobromid as compared with morphine as follows :—

—	Base	HCl	HBr
Morphine	−130·9	−111·5	−100·4
Chloromorphide ...	−373	−315·6	−265·6
Bromomorphide ...	+157	+141·1	+139·5
Isomorphine	−164·3	−150	−127·2

The paper was well received, and Professor Dunstan con plimented the authors on finding a new line of work.

Marriages.

DEWDNEY—LANGDON.—At All Saints, Forest Gate, London, on June 20, Albert Victor Dewdney, chemist, 60 S George's Road, S.W., third son of John Dewdney, Brixhan Devon, to Mary Lee Langdon, second daughter of Captai C. H. Langdon, R.N., of the Admiralty.

HILL—BENNETT.—On June 23, at St. James's, Kenningtc Park Road, by the Rev. S. Bache-Harris, M.A., P. R. Hil pharmaceutical chemist, of Weymouth, to Elizabeth Maud youngest daughter of Mr. B. W. Bennett, of Kennington, S.

SKENE—COUTTS.—At Free Church Whiteinch, on June 2 by Rev. John Coutts, M.A. (uncle of the bride), assisted Rev. John Buchan, John Knox, F.C., and Rev. John Wilso M.A., Victoria Park U.P. Church, Rev. Alex. L. Skene, M.A F.C., Bower, Caithness, to Aggie, daughter of the late M Alex. Coutts, chemist, Pathhead, Kirkcaldy.

Deaths.

RAVERTY.—At Bray, on June 11, Anne, daughter of th late Mr. Stephen Raverty, L.A.H., proprietor of the Medic Hall.

VAN STARREX.—The death of Mr. Alexander van Starre planter, of Crystal Hill Estate, Matale, Ceylon, occurred June 1. Mr. Van Starrex took a great interest in the cultivation of annatto, and was a large shipper of that commodi to various continental ports.

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* 0·050 gramme anhydrous sodium arsenate in 1 litre. 1 c.c. = $\frac{1}{20}$ milligramme.

Observations and Reflections.

By Xrayser.

The Programme of the B.P.C. Meeting in London seems to be on familiar lines. Indeed the hours and the days are, I think, divided in exactly the fashion that has prevailed for twenty or thirty years. Some of us understood that the London Committee were planning some startling novelties which would date a new era for the Conference. Perhaps the old lines are safest, but a change, if only for the sake of change, would, I should think, have proved welcome to the faithful followers of the institution. Were there not suggestions of hearing the Presidential Addresses on the Monday evening at the Reception, of one session per day instead of two, of distributing the papers into sections so that they could be dealt with by separate detachments? Probably there were good reasons against all these innovations, but some of them seem tempting. No Lord Mayor at the festival, not even a sheriff or an alderman, is a calamity, which I gather from the editorial last week is due to Mr. Carteighe's infectious modesty. I am loyal citizen enough to recognise that no other personage can sufficiently compensate for the absence of our chief magistrate; but surely it would have been possible to arrange for some outside eminence, someone who is capable of appreciating the work of pharmacy, to open the proceedings. There are such persons in London, and the Conference offers a good opportunity for paying a compliment to one of these, as well as for providing an attraction and adding to the brilliance of the meeting.

* * * *

Messrs. Boots (Limited) have a right to all the protection which the law affords to any body, and their complaint against the printsellers, who have recommended their associates not to buy prints from firms who sell them to the cutters, must have some substance in it, seeing that they have found a Judge who endorses it. I have not

> Mastered the lawless science of our law,
> That codeless myriad of precedent,

enough to understand Mr. Justice Phillimore's view of the case; and I hope if any of their Lordships of the Court of Appeal should agree with him they will express their opinions more clearly than he has done—for the contention is a most important and far-reaching one. In a previous comment on this case I predicted that, if Messrs. Boots should be successful in this action, the P.A.T.A. would be next attacked; and I still think this likely. Perhaps the lawyers may discover a difference between the two conspiracies. The printsellers aim to organise the buyers, the P.A.T.A. combines the sellers; but both have the same object in view. It is the defence of the right to live by honest trading. It is a little surprising that Messrs. Boots should manifest such sensitiveness. They have never shown much tenderness to those with whom they have competed. We all know the local advertisements in which chemists and druggists have been denounced almost as if they were highway robbers; but, if I understand Mr. Justice Phillimore aright, it is an indictable offence for these people to retaliate by refusing to buy goods from the firms who supply their opponents, or, at least, to recommend this course to be adopted. "If the combination is intended to further its own prosperity," and to oppress poor Mr. Boot, "and deprive him of his means of livelihood," it becomes actionable. But might not that be said of all competition?—

> If he arm, arm; if he shew mines of treason,
> Meet him with countermines; it is justice still
> For goodness' sake t' encounter ill with ill.

That was Beaumont and Fletcher's notion; but it will not do for Mr. Justice Phillimore.

* * * *

It is Satisfactory, so far as it goes, that the sodium phosphate with arsenic accident is to be investigated, and credit is due to the firms named in the editorial last week for the efforts they have made, at some risk to their own reputation, to counteract the effects of a mistake for which, probably, they were not primarily responsible. The most alarming characteristic of the occurrence, if the allegations made in Court are in any degree reliable, are to my mind the remarkable discrepancy between the two samples on which summonses have been granted under the Sale of Food and Drugs Act. One is said to have contained more than twice as much arsenic as the other. This suggests that the arsenic was not equally distributed in the phosphate, and that there may be samples about much more poisonous still. It would be advisable, and retail pharmacists should insist on it, that new batches of sodium phosphate should bear on every label used first by the makers, and then by the wholesalers, the date of manufacture. Then, if all present stocks are either destroyed or returned to the producers, as most of them will be after last week's publicity, nearly all risk of danger to the public will have been averted.

* * * *

It is Costly Carelessness on the part of a chemist to neglect the prompt study of The Chemist and Druggist. When Mr. Budden, of Liverpool, was summoned for selling belladonna plasters not of the nature, substance, and quality demanded, he had a perfect technical defence if, as I expect, the purchaser had divided the plasters as an unsophisticated inspector naturally would have done. He bought four plasters, and probably sent one to the analyst and left one with the seller. But the High Court has declared that those four plasters were four separate purchases, and it was an essential formality that each plaster, or at least one of them, should have been divided into three parts. If this defence had been put before the Stipendiary Magistrate he might have thought it stupid, but he would have had to accept it, and would have lost the chance of making his pretty little joke to the defendants' representative, telling him to represent to his employer that he was fined 5*l.* and costs.

* * * *

A Few Questions occur to me on reading last week's *C. & D.* Is *locum tenentes*, as used by the Birmingham correspondent (page 1021), correct Latin? I should have thought it should be *locos tenentes*. Page 1028. Is Mr. C. B Allen quite justified in stating that there is no State control over establishments in Great Britain open for the dispensing of medicines? Some statutory control is provided, or is professedly provided, over establishments where poisons are compounded, and this covers practically all the establishments open for the dispensing of medicines. Page 1040. Did anybody pay 2*s.* 6*d.* for admission to the Chemists' Exhibition at Manchester after 5 p.m.? Page 1046. Is not 10*s* a very lenient fine on a chemist who sells prussic acid without his name and address on the label? Do chemists sufficiently consider that their legal status depends mainly on the respect they themselves pay to the spirit of the statutory poisons regulations? (In this connection note also the paragraph on page 1021 concerning the sale of ½ oz. of laudanum to a child 9 years of age.) Page 1051. Dr. McWalter is agitating for a degree in pharmacy. Is not the title "pharmaceutical chemist" and what it implies good enough, and if something representing wider scientific acquirements is wanted, what is the matter with F.I.C., B.Sc., and D.Sc.?

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Fletcher, Fletcher & Co. Ld. London & Sydney.

The Companies Bill.

On Tuesday evening of this week the House of Commons agreed to the second reading of the Companies Bill introduced by Mr Ritchie, President of the Board of Trade, and the Bill was referred to the Grand Committee on Trade.

This means, as Mr. Balfour, the leader of the House explained, that two or three days' sitting of the committee ought to suffice to dismiss the various amendments which are proposed to the measure, so that it is quite possible that before the Council of the Pharmaceutical Society of Great Britain has made up its mind what is to be done in regard to the Bill it will have left the House of Commons. It is well that the trade should clearly understand the present position of the matter. The Law and Parliamentary Committee of the Pharmaceutical Council was at the last meeting instructed to consider what should be done, although it was suggested to the Council that the matter was urgent, and that a prompt decision should be come to for the purpose of making representations to the Lord Chancellor or others in charge of the Bill in regard to the pharmaceutical interests of the measure. The Council deliberately set aside this suggestion, and adopted a non-committal resolution requiring consideration by the whole Council, so that it will be next week before any real step can be taken by the representatives of pharmacy to put their case. This is a repetition of the dilly-dallying policy which has characterised the Pharmaceutical Society's handling of the company-question during the last twenty years. Had the majority of the Council been earnest in the matter they would have made some alternative arrangement to enable the executive officers of the Society to Act in an emergency. There has been no such arrangement, and in view of the fact that the President and the Vice-President of the Society are amongst those who do not wish company-pharmacy to be treated in the Companies Bill, we can scarcely blame them if nothing is done in the matter, since they can plead that they have not received specific instructions from the Council. It is true that Mr. Ritchie's reference to the pharmacy and medical clauses of the Bill are not encouraging, and that he practically recommends his fellow-commoners to reject these clauses, but he said it would be for the Committee to decide whether or not they should be proceeded with or struck out of the Bill and relegated to some other Bill at some other time. That is an important suggestion to fall from the President of the Board of Trade, and it is exactly one which pharmaceutical representatives should have been prepared to take full advantage of by placing on the papers of the House, through some parliamentary representative, a suitable amendment to Clause 2. As the matter now stands, Sir Albert Rollit has anticipated all opposition to Clauses 2 and 3 by placing a motion on the paper to reject these clauses, and, with the strong hint given by Mr. Ritchie, it will be astonishing if they are not rejected. For that last opportunity the Pharmaceutical Council should be thanked. The Irish Pharmaceutical Council has been and is prepared to act with the British Council, and has ready an amendment to the clause which would form the basis of agreement, but all the overtures of the Irish Council for co-operation have been either declined or ignored. In the present juncture there is little that chemists and druggists throughout the country can do, except to ask the members of the Grand Committee, whose names we print on page 1071, to oppose Sir Albert Rollit's motion, and to amend Clause 2 so that it shall read as follows:—

> No company of persons who are not registered under the Pharmacy Acts of Great Britain or Ireland may use the descriptions or titles provided therein, nor may any company carry on the business of pharmaceutical chemist, chemist and druggist, or registered druggist, unless the directors of such company are duly registered pharmaceutical chemists or chemists and druggists or registered druggists, as the case may require, and unless the name of the assistant managing each open shop or other place in which the business is carried on by the company, who must himself be qualified, is conspicuously posted in each shop or place, but, subject to this provision, anything which would be an offence under the Pharmacy Acts if committed by an individual shall be an offence if committed by a company.

Such amendment would give the public the complete protection which the Lord Chancellor desired, would conserve the fundamental principles of the Pharmacy Acts, and would be better than the nothing at all which the Pharmaceutical Council appears, like Mr. Ritchie, to favour.

The Advance in Ergot.

During the past month this drug has again come into prominence, quite a considerable amount of interest having been taken in it by the few holders on this market, owing to the appreciation in values; and, according to all accounts, we are likely to see still higher prices. In September of last year we commented upon the situation, and then stated that the crop of Spanish rye had been a failure, and that the Russian crop would be small, owing to the prevalence of drought in the producing-districts. This practically proved to be the case, there having been a steady advance since then in both varieties. For instance, in June, last year, Russian ergot was offered on the spot at 1*s.* 2*d.* to 1*s.* 3*d.* per lb., but by September it had crept up to 2*s.* (the crop-reports proving to be correct), and before the year was out 2*s.* 6*d.* was wanted for it. There was, however, a slight reaction in November, and prices were temporarily depressed; but this was said to be the result of a manipulative movement in Hamburg and New York, which soon exhausted itself. To-day the position is, if anything, more accentuated, as consumers are now beginning to feel the result of the shortage last year, and so much so that 2*s.* 6*d.* to 3*s.* per lb. is now wanted for spot supplies of Russian. It is estimated by dealers on this market that the London stock amounts to between three and four tons, and, as new-crop is not expected before September or October, it looks as if there will be a pinch. There are one or two holders who have stock on hand costing them 2*s.* 6*d.* to 2*s.* 8*d.*, and they are not likely to realise until they see a fair profit. Prices, however, have not yet risen to this level, although they are tending that way, as early this week 2*s.* 1*d.* was paid, and later 2*s.* 3*d.*, for Russian on the spot. The transactions have not covered more than a few hundredweights. On the Continent stocks are also exceedingly light, those at Hamburg, where the bulk of the supply comes from, being estimated at 2½ to 3 tons. In this connection we have received this week a letter from a continental correspondent, who is well situated to judge of the position of the article and its future. He reports that the stocks in Russia are now totally exhausted, as important orders, which have been placed in every known source of supply in Russia, have elicited the unanimous reply, "We have no stock." As regards this year's crops, our correspondent states that it is yet too early to say anything definite, and it would be rash to speak one way or another for two or three months yet; but reports circulated regarding the German-Russian crop point to the fact that it will be small, as no rain has fallen for some time. This means a subnormal crop of rye, and as it (ergot-fungus) only flourishes in the damp, unless there are copious rains at the time of flowering there will be little ergot. It is well to remember that, at the best, ergot of rye is an evil thing in the sight of those who look to rye for food. While, therefore, little credence is attached to present reports of the ergot crop, they are not altogether bad from the general point of view. There is no information to be had regarding the Spanish rye-crop, but it is stated that with the exception of one lot of about half a ton of old (for which 4*s.* per lb., f.o.b. Hamburg, is wanted), the stock is exhausted. Another important factor in the situation is that the United States, the largest consumer of ergot, has by no means a large stock, as all orders from there have been for immediate shipment, which is a sign that the drug is wanted for consumption and not speculation. A remarkable circumstance in connection with the American supply is that Dr. Squibb, of Brooklyn, is so much struck with the scarcity of the drug and the need for it, that he has circularised all his customers not to waste any.

[Since the foregoing was written we learn that parcels of new crop to arrive have been sold at from 2*s*. 1*d*. to 2*s*. 2*d*. per lb., c.i.f., and that the Hamburg stock has been reduced to 1½ ton, owing to the sale on Tuesday of a like amount.]

The New Poison Traders.

WE had a pleasant chat, or rather argument, one day this week with Mr. T. G. Dobbs, the Secretary of the Traders in Poisons, &c., Protection Society, to which reference was made last week. Mr. Dobbs informed us that he comes to town from Worcester occasionally only, and his London office is looked after by a competent clerk, as well as the proverbial small boy. Mr. Dobbs naturally objects to our playful references to the Society which he has been the prime mover in organising, and assured us that it is supported by leading horticulturists, seedsmen, and farmers throughout the country, while some wholesale chemists and oilmen also support it. Mr. Dobbs is quite prepared to be militant in enforcing his views upon the Legislature. He has drafted Bills to amend the British and Irish Pharmacy, so as to allow any person who obtains an Excise licence to sell scheduled poisons or compounds thereof in sealed packets, properly labelled and supplied by persons registered under the principal Acts, provided such poisons or their compounds are not used as medicines. He is confident that the Bills will pass through Parliament, because he will get a whole army of farmers, horticulturists, seedsmen, ironmongers, oilmen, and other tradesmen throughout the country to write to their members of Parliament about the proposal, and the hardships imposed by the chemists' poison monopoly, and if the members do not give their support—well, the voters will know what to do. At any rate, Mr. Dobbs has already obtained the support of members of Parliament for his measure, and he seems made of the sort of stuff that will get over a lot of opposition. "Would you be surprised to hear," he asked us, "that the Bill will have the support of the Pharmaceutical Society?" "No, we are not surprised at anything the Council does." Then Mr. Dobbs assured us that he had had indications from one of the powers that be that that is so, and we hear further that it is thought the Government will view the proposals with favour. Mr. Dobbs is thoroughly convinced that things have changed since the 1868 Act passed, and that is the chief idea that he is to press home to those whose support he wants.

ARSENICAL SODIUM PHOSPHATE.

Since our last issue we have heard of two additional cases of arsenical-poisoning from effervescent sodium phosphate, and in regard to these civil proceedings have been taken, but the cases are not likely to come into court. We need merely state in regard to these that a Hampstead chemist is involved in them, and his attention was called to the matter by a medical practitioner who, finding a patient retrogressing, suspected the medicine, had it analysed, and found the arsenic. The cases under the Sale of Food and Drugs Act will be heard at Marylebone on Friday, July 6, and as much expert evidence will be called, the hearing is likely to be protracted. We have heard a great deal more about the origin of the phosphate during the past week, and it is curious, now that arsenic has been found in the salt (as sodium arsenate), that the British Pharmacopœia does not provide by tests for its absence, so that it is not astonishing that the impurity has been passed for years. It appears to arise from the use of crude sulphuric acid. In this connection Mr. Bird does excellent service to pharmacy by his careful study of tests which is printed in this issue.

GAS BY PRIVATE ENTERPRISE.

Professor Silvanus P. Thompson, in a letter to the *Times*, June 26, speaks of the scandal it is that the gas companies, who enjoy monopolies for the supply of illuminating-gas in their several districts of the metropolitan area, should suddenly announce a rise of prices, varying from 10 to 16 per cent. The monopoly of the companies, he points out, only extends to *illuminating*-gas, and there is an obvious remedy that, either by private or municipal enterprise, there should be created a public supply of non-illuminating gas. "This can be supplied profitably at under 2*s*. per 1,000 cubic feet, or at half the price to which illuminating-gas has now been raised. Though only half the price, it will be equally good for propelling gas-engines and for supplying gas-stoves. There will be nothing to prevent any consumer of it from using it to heat the mantles of incandescent lights or any other thing that he desires to heat.

A FAIR EXCHANGE.

"If we could secure our titles and the compounding and dispensing of medicines in exchange for the Poisons Schedule we should still hold collateral security for the whole trade in poisons used medicinally." So Mr. Broadhead remarks in our correspondence columns; and while we do not desire to discourage any aspirations as to what we may get from Parliament, we would remind the optimistic that the giving away of the Poisons Schedule does not exactly come within the province of registered chemists and druggists. All that the State has ensured is that persons who sell poisons shall have a certain qualification. The State is not at all likely to go back upon that unless the control, which has been placed in the hands of chemists and druggists' representatives, proves to be inadequate, or if chemists and druggists do not give the public proper service in regard to poisons.

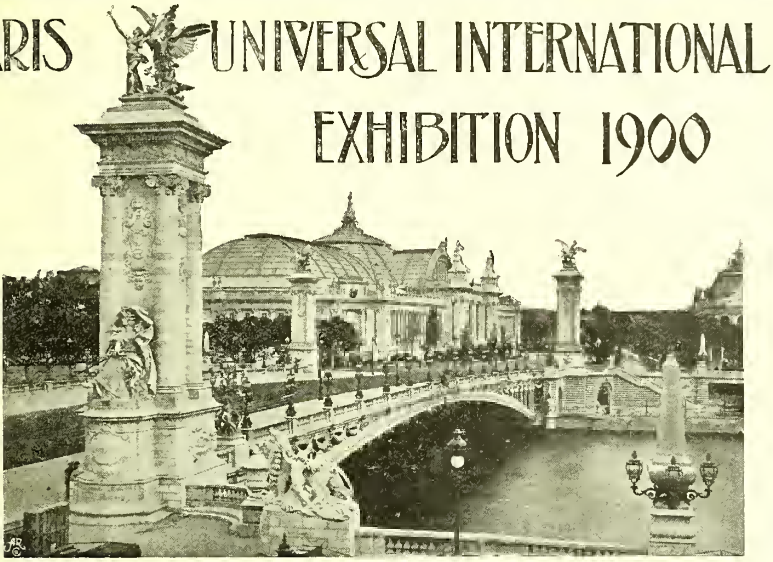
THE CRY OF THE ASSISTANT.

That perennial subject, the troubles of the Chemist's Assistant, has cropped up once more—this time in Manchester. A correspondence on the necessity for the formation of a Union among chemists' assistants in the Manchester districts is going on in the columns of the *Manchester Evening Chronicle*, and the same arguments are set forth and evils brought to light as heretofore. Some of the correspondents write as if the formation of a Union were a new thing, forgetting (can it be possible they are unaware?) that a Chemists' Assistants' Union of Great Britain at present exists with officers willing, ready, and anxious to do their best to remedy the evils which undoubtedly exist, and of which they complain so bitterly, providing adequate support is given them. The optimistic manner in which "Chemist's Bookkeeper" (who set the ball rolling) writes—"A strong Union could easily be formed that would—like the proverbial snowball—gather more as it goes on"—suggests that he has either never tried practical organisation in the ranks of the drug trade or that he is gifted with a keen sense of sarcastic humour. A communication sent by "J. Hay" asks "how it is possible for an isolated class of shopkeepers to muster sufficient weight of opinion or numbers to be of any service to them when the "Amalgamated Union of Shop Assistants, Warehousemen, and Clerks," with all its thousands of members and years of work, are not yet in a position to force the play against unscrupulous employers." He advises chemists' assistants to join that Society. We think this is another opportunity for the C.A.U. to point a moral and increase their membership.

PARIS UNIVERSAL INTERNATIONAL EXHIBITION 1900

CHEMISTRY

PHARMACY



SINCE the opening of the Exhibition in Easter-week, when chaos reigned supreme throughout the Champ de Mars and the Esplanade des Invalides, the executive of the great organisation have pushed along the work so well that, although there are spots here and there which are still bare of interest, the Exposition may fairly be said to be complete. So far as the industries connected with pharmacy are concerned, there is sufficient to occupy a careful observer for at least two or three weeks.

Whether the Exposition is worth visiting or not is a question with which we are not concerned. Our experience of all international exhibitions is that there is much in them which business-men can get "pointers" from, if not actual instruction, and the present Paris Exhibition is superior to all others which have hitherto been held in bringing together the industries of the European Continent more fully than has ever been done before, and for the first time Japan stands side by side in Europe with other nations as an industrial country.

The location of the Exposition is, as has been indicated in previous reports, practically the same as the 1889 one, the Champ de Mars, providing a conveniently-arranged quadrangle of buildings for the industrial arts; and on the other side of the Seine, in the Trocadero grounds, the colonies of various nations are housed. There is a new location on the Esplanade des Invalides, made accessible by the fine Pont Alexandre III., and the vista provided by the bridge and Esplanade, with the dome of the Great Napoleon's tomb as the background, is the finest of the kind in the world. The banks of the river between the Esplanade and the Eiffel Tower, which stands as sentinel to the Champ de Mars, are lined by the Rue des Nations, where Great Britain has her place amongst other countries, and has occupied it with an old English mansion, modest in proportions, but admittedly the most pleasing of all the palaces, because the most artistic in interior furnishing.

The Exhibition covers an area of 1,080,000 square metres, compared with the 960,000 of the 1889 Exposition; and of the area 460,000 metres are devoted to buildings, which is nearly twice as much as there was eleven years ago. It was

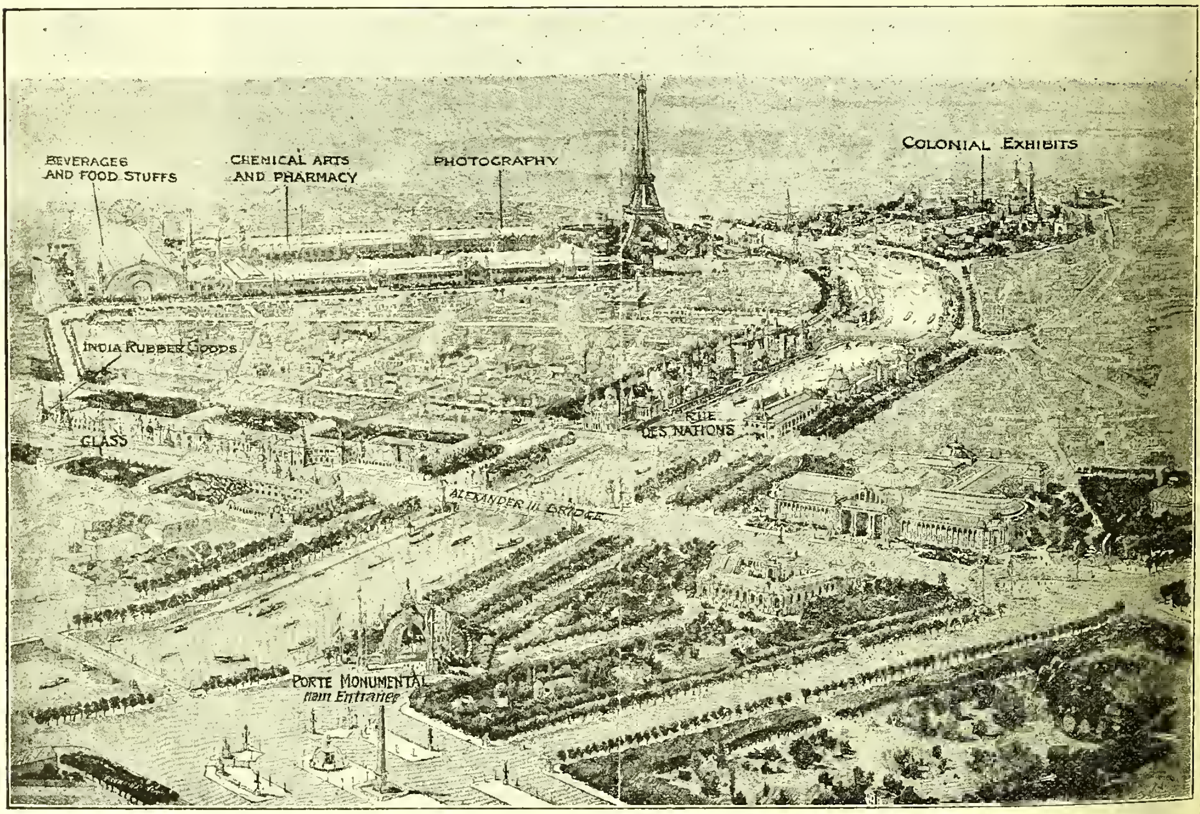
Pont Alexandre III.

Esplanade des Invalides.

begun as soon as the 1889 Exposition closed its doors, and has given Paris three permanent structures which in themselves are splendid memorials of success—viz., the Pont Alexandre III., the Petit Palais, and the Grand Palais, these two buildings being devoted to Art.

The principal entrance to the Exposition is at the Place de la Concorde, but there are many others. Two tickets are required for entrance up to 10 A.M. daily, after which till 6 P.M. one ticket suffices. The grounds are open at 8 A.M., but the buildings do not open until 10. The face-value of the tickets is 1f., but they can be bought anywhere in Paris for 60c. or even less. One has to pay 60c. at the kiosks near the entrance-gates. The cut rates are the result of the lottery that has made tickets a by-product. Millions of them have been sold by the Exposition authorities.

Paris is full, hotel-rates are high, and everywhere Englishmen get that most unenviable of compliments—the treatment bestowed upon people with an endless purse. This courtesy may be avoided by judicious arrangement with one or other of the British touring-agencies before leaving for Paris.



Bird's Eye View of the Exhibition

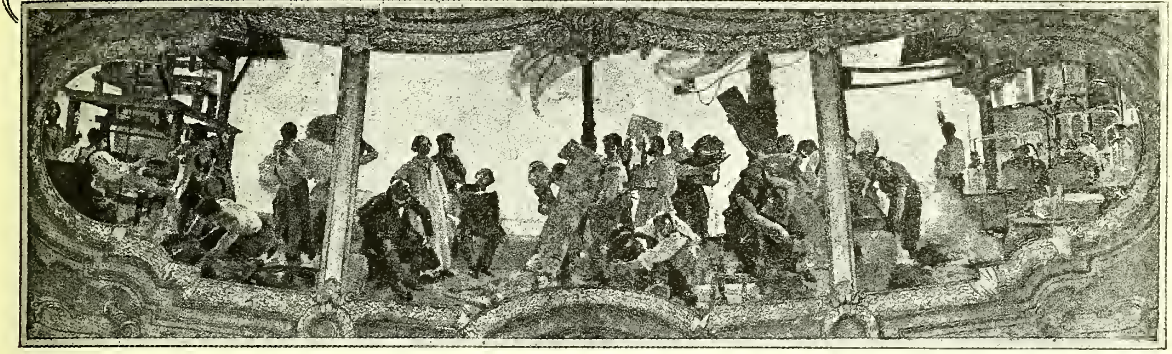
In a previous article we expressed the opinion that this great Exhibition is probably the last of the kind which the present generation is likely to see. Our reasons for saying so are—(1) it is a purely *fin-de-siècle* affair; (2) it represents the effort of a nation peculiarly gifted in such matters; (3) in artistic excellence and general completeness it overtops the summit and shows signs of decadence; and (4) no other city in the world except Paris has attractions to recoup by indirect gain the direct loss upon the Exhibition itself.

To this country the Exposition is in some respects a bitter draught. Our manufacturers have, as a body, not attempted to exhibit British industries, and as these are largely connected with metallurgy and mechanics, the fact is revealed that a gigantic show in these departments can be made without our aid. Belgium, France, Germany, and Russia are strong in these departments. Iron and electricity were said to be the keynotes of the Exposition long before it opened, and one finds them to be so. For this reason, perhaps, we find that it is not so attractive on the chemical and pharmaceutical sides as was the 1889 Exposition, and had Germany not participated on this occasion there would have been a marked falling-off in our departments. We present a complete report of the exhibits interesting to our readers in one number, so that it may be kept for reference. It is written on the selective principle—that is to say, we have endeavoured to pick out from all the courts those ideas which may help to show how our competitors in other countries are meeting current demand or anticipating the future. The Exposition is about the worst we have ever visited in respect to pushing business. A comparatively small proportion of the exhibits are attended by the exhibitors' representatives, so that in the absence of the official catalogues reporters have to rely upon their eyes and general knowledge.

We have endeavoured to group the exhibits according to their nature, putting Great Britain first in each group, and other nations generally in alphabetical order. All the sketches which illustrate the monograph have been made on the spot by our own artist, and the photographs, with one or two exceptions, have been specially taken for the *C. & D.*

We may state that The Chemist and Druggist is the only British journal of pharmacy selected for exhibition in the chemical-industry building.

PHARMACY & CHEMISTRY



Frescoe in the Salle des Fetes, showing Applied Chemistry.

The Chemical Arts and Pharmacy Section of the Exhibition is situated in part of the palace on the right-hand side of the Champ de Mars as one faces the Château d'Eau. This particular building is devoted also to conveyances, education, letters, science, and arts; but the section in which chemical industry and pharmacy are shown is that portion immediately on the right of the Château d'Eau. Great Britain, Germany, Russia, Belgium, and Italy are on the ground floor, the galleries immediately over these countries being devoted to France, the United States, Austria, and the smaller exhibits.

GREAT BRITAIN.

The British exhibit of chemicals gives but a meagre idea of the importance of our chemical-industry in the world. The section is badly arranged, Sunlight Soap's imposing pavilion in white and gold being in juxtaposition to the black-and-gold case of considerably smaller dimensions devoted to Messrs. Howards & Sons' fine alkaloidal and medicinal products. The exhibit of the alkali-manufacturers overshadows a very interesting one by Messrs. T. & H. Smith & Co., of Edinburgh, the latter having as a neighbour Messrs. Elliman, Sons & Co., of Slough. The arrangement of cases seems to have been carried out in a happy-go-lucky, haphazard sort of way, and the contrast between this chaotic medley and the finished and artistic perfection of the German exhibit, which is exactly opposite, is so striking as to encourage the idea that the chemical-industry of Great Britain is decadent, because Germany is in the ascendant. Some British exhibits were unfinished when we inspected them, and this, we learn, was mainly owing to the difficulties placed in the way by the Exhibition officials. We heard many complaints of the laxity, half-heartedness, and, worst of all, the red-tapeism which characterised dealings with the British Commission, and certainly the results, as far as Great Britain are concerned, are not to the credit of the country.

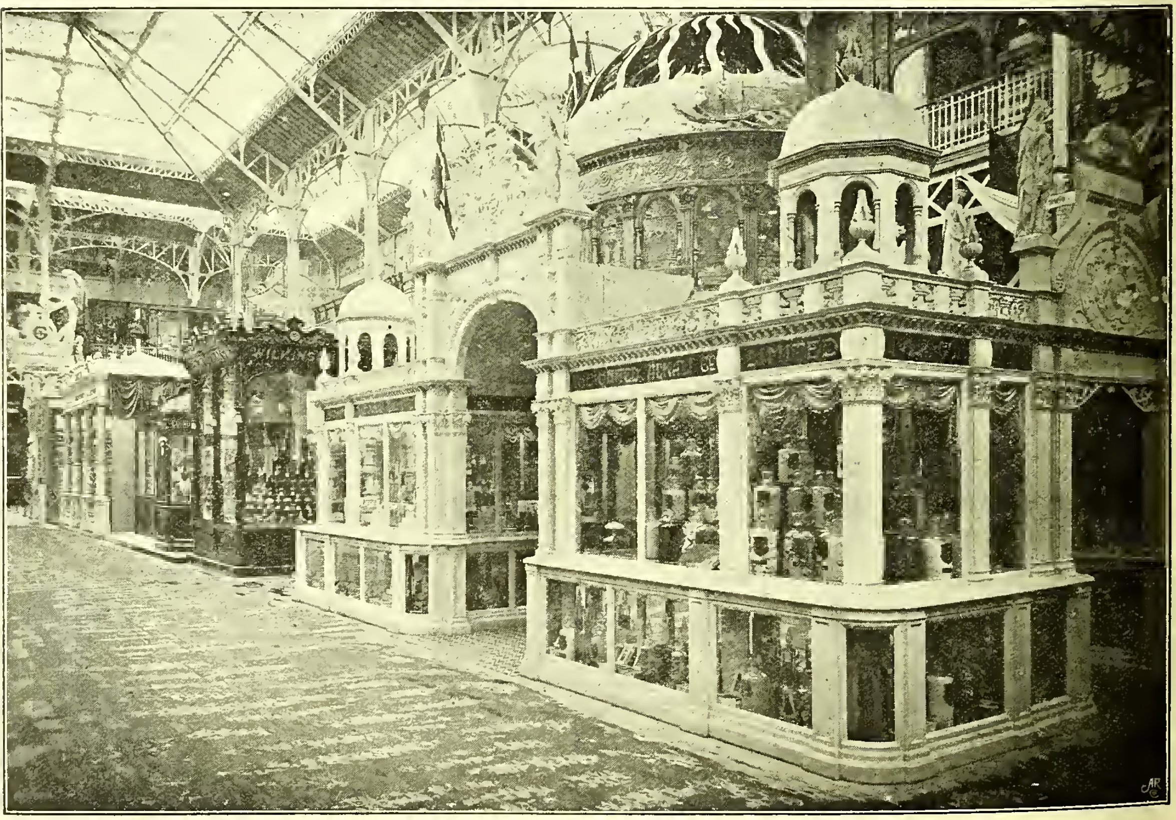
The exhibit by Messrs. **Howards & Sons** includes many fine specimens of rare chemicals. In the matter of display the exhibit is unambitious, but the interest and value of the specimens shown cannot fail to attract those who are familiar with medicinal-chemicals. For example, a large jar of basic quinine sulphate forms a nucleus, so to speak, for a collection of the salts of cinchona alkaloids, as they are commercially produced and put on the market. One form of quinine sulphate is in compressed blocks, each weighing 1 oz. The difficulty of obtaining quinine salts absolutely free from the inferior alkaloids is well illustrated by a sample of quinine bisulphate which is the acme of purity, the fine specimen being the fiftieth crystallisation. Of course, the inferior alkaloids are left in the mother liquors. There are comparatively few other "show" specimens of cinchona products, but we noted a fine one of herapathite, and there is a series of quilled cinchonas such as are seldom to be obtained on the market nowadays, while a sample of cinchonidine, made from cinchonine, is a thing which has rarely been seen before. Caffeine is the next alkaloid which attracts attention, this being one of the chief Howard products. Besides the alkaloid and its more important salts we observed a sample of theobromine obtained from the residual marc after the extraction of caffeine. Of this alkaloid Messrs. Howards have prepared a number of periodides constitutionally different, and these are also shown. We also observed a sample of adenine picrate, which is a rare nuclein derivative: the first time, we fancy, this has been produced commercially. Camphor in various forms, bismuth salts, Epsom salts in magnificently bold crystals, and inorganic chemicals generally are included. We also noted sublimed ammonium sesquichloride in pretty mauve crystals, phospho-molybdic acid is shown in pale yellow powder, ecgonine in very fine yellow crystals, and hydrochlorate of sarcosine in white feathery needles.

Next to "Howards'" is a fine show of opium alkaloids by Messrs. **J. F. Macfarlan & Co.**, of Edinburgh. A central vase contains good-sized bricks of morphine hydrochloride. The salt is also shown in the usual commercial forms, and codeine in splendidly-defined crystals. The preparation of the latter from morphine first effected by Grimaux was first carried out on the manufacturing scale by Messrs. Macfarlan, and the codeine salts which they show are complete. The acetate is in cube-like crystals, and the hydriodide in fine white needles. Acid sulphate of morphine is exhibited for the first time. It is a salt soluble in about an equal weight of water. Apomorphine, acetyl-morphine, di-acetyl-morphine, ethyl-morphine, and benzoyl morphine are presented as hydrochlorides, and a new apomorphine salt (the hypophosphite) lately introduced by Messrs. Macfarlan for hypodermic injection occurs as a greyish powder soluble in 6 parts of water. Besides the opium alkaloids and a number of narcotine derivatives there are exhibited caffeine, its hydrobromide and citrate, beberine and the sulphate in scales, emetine hydrobromide, pilocarpine nitrate, and veratrine. Aloin, chrysarobin, and salicin are amongst the neutral principles shown, and there are also several resinoids and pharmaceutical products. Good samples of varieties of opium—Turkey and Persian—show the kinds that are used for manufacturing-purposes.

The beautiful four-lobed pavilion comprising the combined exhibit of the alkali-manufacturers is worthy of a better setting. The striking design attracted much attention, and one could not help thinking that if only the *whole* of the British chemical and pharmaceutical firms had combined to form an exhibit of this design after the style of the French and German manufacturers, the general effect would have been more noteworthy. One corner (or leg) of the stand is occupied by the **United Alkali Company**, of Liverpool. In the centre is a blue crown of sulphate of copper. All the caustic alkalies, acids, and preparations of the firm are tastefully represented. Sodas, potashes, cyanides, and chromates make a pretty picture. Saltcake, oxide of strontium, roll and rock sulphur, and manganate of soda are exhibited in handsome bottles and glass jars. The labelling is in French, with English slip-labels beneath. The corners of the top part of the case (they are each divided into two compartments, like a counter-case with glass front) contain vases with samples of toilet-soaps (Hazelhurst's, Acme, &c.) The mineral acids are in show-bottles in the compartment beneath, in which is also included "Chloros" and glycerin. Messrs. W. Gossage & Sons (Limited), Widnes, occupy one of the left "limbs." Their exhibit is arranged in three circular pyramids. Glycerins chemically-pure and crude, are shown, and silicate of soda in various forms—brown, black (175°–180° Twaddell), and red (100° Tw.). Mottled soaps and toilet-soaps abound, as do the various substances used in the preparation of soaps, resin, cocoanut oil, palm oil, and copra. The labels (in French and English) are unique, being in the form of a small opened book with gilded edges. The third "limb" is the exhibit of Messrs. Brunner, Mond & Co. (Limited), of Northwich, which creates universal interest. The most striking object is a framed slab of pure zinc (99.95 per cent. Zn), and guaranteed free from arsenic. The alkali products are shown (in crystals and powder) in large cylindrical jars, and comprise carbonate of soda (Solvay's process), caustic soda (made by Löwig's process), bicarbonate of soda (recrystallised), sulphate of ammonia (Mond's patent), and bleaching-powder. The bleaching-powder and pure zinc are manufactured by the combined chemical and electrolytic process patented by Carl Hoepfner. The company are distributing a well-got-up pamphlet, printed in English, French, and Spanish, which gives a faint kind of an idea of the magnitude of their business. The exhibits of each of the three forementioned firms are labelled in French and English; the three following are in English only. The remaining section of the pavilion is devoted to bichromates made by Messrs. John & James White, Glasgow; the soda products (Le Blanc process), sal ammoniac in huge lumps or fine crystals as used in electric batteries, and sulphur in all its forms (Chance-Claus process) of Messrs. Chance & Hunt (Limited), of Oldbury; and the cyanogen products of the British Cyanides Company (Limited). Messrs. White have a chaste corner, the beautifully-formed dark-red crystals of the bichromates of potash and soda showing up well against the blue-plushed and mirrored background. The hangings are in pale green to correspond. The yellow prussiates of the British Cyanides Company are also well displayed, and pure cyanide is shown (98 per cent.) in snow-white tempting pieces, along with 95-per-cent. crystals and 30-per-cent. cakes.

Partially hidden behind the alkali pavilion is the black-and-gold case, admirably finished and very interesting, of Messrs. T. & H. Smith & Co., of Edinburgh. This exhibit contains a lavish display of alkaloids, principally of opium. In front are two large glass jars, containing beautiful specimens of codeine and morphine. Between these is another smaller one filled with cryptopine, and in front a smaller quantity (about 1 oz.) of cantharidin in pure white acicular crystals. Above are large blocks of morphine hydrochloride and morphine sulphate. Theine, in peculiar, silky, white tufts, is shown in considerable quantity, as also caffeine, which looks duller and more like cotton-wool in the jar. There are 4-oz. quantities of thebaine, piperine (in lumps), papaverine, and meconic acid. Here and there over the stand are varieties of opium in original packages—Australian, Tokat, Smyrna, Persian (the last in square pressed cakes like gingerbread and also in wrapped "fingers"), China (in green-paper wrappers), Salonica (in squat lumps), and Egyptian. In the back portion of the case three large glass pans corresponding to those in front are filled with xanthaline (in fine white powder), xanthaline hydrochloride and nitrate, the former in light-yellow and the latter in orange crystals. Strychnine crystals and strychnine salts are present in the same profusion, and jalap-resin in crystals and powder. All the labelling of Messrs. Smith's products is done in French.

Messrs. John Riley & Sons, of Hapton, have a smart case with mirrored back, showing various chemical preparations. Two "crowns" of alum-sulphate crystals draw the curious, and the well-finished manufactures of the firm, displayed in



British Section of Pharmacy.

pharmaceutical shop-bottles with gilt-edged labels, hold their attention, though perhaps it would be more enlightening to many if the labels were in French as well as in English. The show includes among other things bronze liquor, muriate, and nitromuriate of tin, solution of zinc chloride, acids in long glass cylinders, and the "Eagle" brand of sulphate of copper.

The majority of visitors who chance to wander into the British Section want to know what the square brown box in the exhibit of Messrs. C. LOWE & Co., of Manchester, contains. They ultimately discover (if they can read English) that the contents are solidified crystals of pure carbolic acid (crystallising-point 42·25° C., boiling-point 182° C.), as discovered by Mr. C. Lowe, F.C.S., in 1862. Behind this, on a neat shelf, are stoppered bottles containing carbolic acid of various purities. Cresol is also shown, and aurine in greenish crystals (soluble in alcohol) and reddish crystals (soluble in water). Picric-acid crystals and paste are likewise included amongst the firm's manufactures.

Messrs. GEORGE HAYNES & Co., of Stockport, provide a small but compact case of medical and surgical dressings, wicks for lamps and cooking-stoves. The packages are neatly tied with tricoloured ribbons, and labelled in English.

The white enamel and gilt stand of the FULLERS' EARTH UNION (LIMITED), London, contains five large jars, showing five different varieties of Surrey and Somerset fullers' earth.

Messrs. SCRUBB & Co., of Lambeth, content themselves by exhibiting a gigantic facsimile of a "Scrubb's Cloudy Ammonia" bottle about 6 feet high, mounted on a pedestal. It seems to serve the purpose for which it was intended.

DAY & MARTIN (LIMITED) have an elaborate show of blacking, boot-dressings, and furniture-polish. The latest D. & M. speciality appears to be a "khaki dressing" for boots.

The ebony-and-gold stand of the PATENT BORAX COMPANY (LIMITED) has the borax preparations of the company arranged on a plush pyramid decorated with tasselled fringes. Around the case are a number of good showcards supplied by the company, and a special case contains the gold, silver, and bronze medals obtained at various exhibitions. Besides numerous varieties of borax and borates, there will be noted a borax "Faultless" food-preserver and borax "Electric" voice-crystals in glazed jars, Savon borax (for the French trade), boraxaline, borax toilet-soaps, and laundry and toilet preparations.

A very striking and complete exhibit of colours and varnishes is made in the Chemical Section by Messrs. WILKINSON, HEYWOOD & CLARK (LIMITED), London. There are displayed in glass jars samples of almost every colour used in the arts and industries. These are well worth studying, but the fine specimens of varnish-gums and the crystals of potash alum, chromium sulphate and chloride (the latter in beautiful mauve flakes), and other finished chemical products prove even more interesting to the pharmaceutical sojourner. The varnish-gum specimens were the finest and most complete collection in the Exhibition, as far as we could see. Chunks of Manila copal, kowrie, and a beautiful almondy piece of Siam benzoin are set out on white doileys. Sandarac and animi (goose-skin) look clean and clear beside a lump of the famous Palembang benzoin which was sunk off the Cape of Good Hope in 1691, and recovered in 1886. Orange, garnet, and button shellac show up the pearly drop of the gum mastic, and dragon's-blood (that mysterious counter-requisite of all pharmacies) is shown in drops. The *ultima thule* of poetic varnishry is surely reached by a fine large piece of polished dammar and two pellucid particles of kowrie.

Near by, Messrs. MANDER BROTHERS, of Wolverhampton, compel investigation. Their pavilion has an artistic, Frenchy, light-and-airy style about it, which made us think it was a derelict from the confectionery or perfumery section. An engaging young lady in charge, who speaks English and French, heightens the illusion. This elegant "contraption," however, is, we discovered, used for the effective display of varnishes and colours. Here also are exhibited varnish-gums, perfected varnishes, and enamels. "Manders' Water paint," in powder, lump, or liquid, is profusely pushed by sample and by literature.

The sober-looking specialities of Messrs. ELLIMAN, SONS & Co., of Slough, do not tend to the production of elaborate artistic effect. The exhibit is a quadrangle, in which are effectively displayed framed showcards of hunting scenes, which are so familiar to us, and which now prove a great attraction to the French.

Messrs. JOHN JAKSON & Co., of Mitcham, have adopted the novel method of painting the background of their stand with pictures of their lavender, peppermint, and chamomile fields in Surrey. The pictures, especially "Harvesting the Peppermint," are effective, and boxes of mint and lavender all over the stand press home the object-lesson, the culmination of which is found in a case containing bottles of the firm's brand of peppermint and lavender and rosemary oils. These are arranged in different sizes to form a pyramid, the pinnacle being an artistic jar of "Mitcham blue camomile oil."

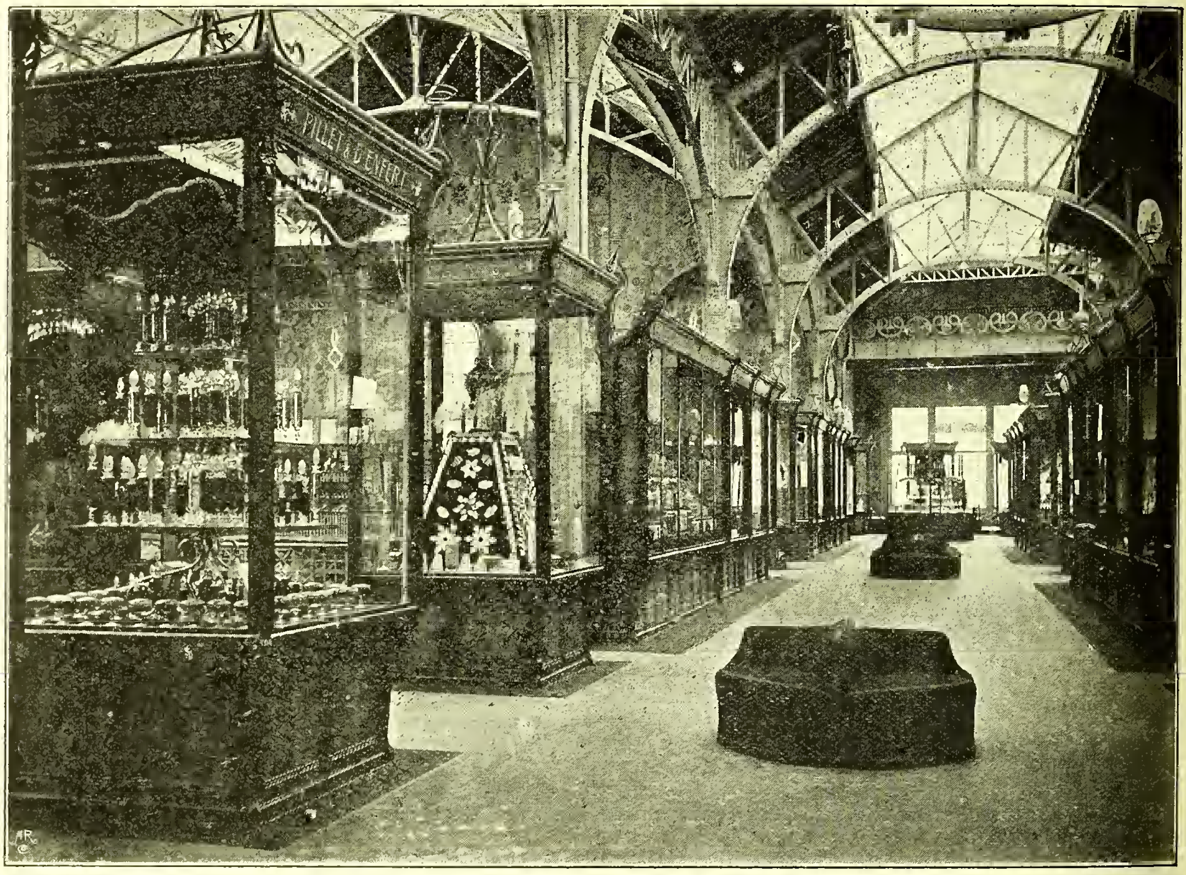
PRICE'S PATENT CANDLE COMPANY (LIMITED), of London, always make a bewitching display at trade-exhibits in this country, and, as may be imagined, in Paris they have kept up the standard which won for them the Grand Prix in 1889. The stearine products lend themselves so readily to modelling and artistic decoration that it is not surprising (knowing the firm's reputation in this respect) to find at each corner of the handsome mahogany and plate-glass case accurate replicas in stearine of the famous "Liberty" statue in New York Harbour, while on the centre pedestal her Majesty the Queen (in solid stearine) beams benignantly on British subject and French citizen alike. The exhibit is arranged in four distinct groups, separated by carved mahogany partitions. One section is appropriated for candles, the second for night-lights, the third for toilet-soaps, and the fourth for glycerin, glycerin preparations, and lubricating-oils. The candle-side has some pretty specimens of hand-painted candles in silk-lined boxes, while an elegant background is formed of elaborately-painted palmitine and palestrine candles in a fan-shaped device. The night-light display contains Venetian-glass cups of different devices for holding the lights and an artistic design "Veilleuses de Price" in a plush-and-gold frame. The toilet-soaps prominently shown are "Regina," "Bonsavine," "Glycerin and Cream" and "Mistletoe." These are relieved with flowers in Venetian-glass vases. The well-known glycerin (Price) is not forgotten, nor are glycerol of malt and glycerol of the hypophosphites.

The imposing stand of LEVER BROTHERS (LIMITED), of Port Sunlight, by its size, completeness, and the attention which is paid to interested visitors by representatives constantly in attendance, is made the most important (to the passer-by) in the Chemical Section. Then the display impresses the casual visitor, for good photographs, consisting of views of the works at Port Sunlight, in the United States, Canada, Australia, Switzerland, and Germany, are exhibited in profusion. A pyramid of blocks illustrates the growth of the firm's business during the past fourteen years, and Sunlight-soap labels in fifteen different languages suggest the world-wide celebrity of the products. A stamping-press is used to stamp miniature blocks of the soap for the benefit of the visitor, and advertising literature in various languages is in abundance.

In the gallery of the Section devoted to Decorative Arts, Messrs. WINSOR & NEWTON (LIMITED), London, have a display of artists' colours which rivals the exhibit of any country in the Exposition. It is arranged in the form of a pyramid, with the view of illustrating, as far as can be done with pigments, the complete system of colours in their shade relations. Besides the colours, Messrs. Winsor & Newton also have considerable varnish trade, and show fine specimens of white lac, gum tragacanth (Crete), gum Senegal, various raw umbers, lapis lazuli from Persia and Cappagh brown from Ireland. In the same gallery, Messrs. J. & J. FIELD, of Helmet Row, E.C., have a nice exhibit of chemical non-corrosive inks, colours, and sealing-wax. Samples of gum arabic and galls are shown, besides various other like ingredients used in ink manufacture. Bottled gum is also a speciality of the firm. JOHN BOND'S Crystal Palace marking-ink is shown in a neat case at the end of the same gangway. It is a good exhibit; the colours are fetching, and the display of gold and silver medals impressive.

THE BRITISH COLONIES.

Canada.—This exhibit is naturally composed mainly of furs and agricultural products. We discovered, however, in



French Section of Pharmacy.

the gallery a good show of galenicals by Messrs. Lyman (Montreal), but as it consists chiefly of large jars of tinctures and liquid extracts, it does not lend itself to description. It is, nevertheless, an excellent exhibit. A Canadian firm, Tourangeau (Montreal), also show orthopedic appliances.

Australia shows a rich collection of gold, silver, lead, and tin minerals. Eucalyptus oil is also represented, but otherwise there is little of interest to the pharmacist.

India is housed in a fine Indian Palace near the Trocadero. There is a beautiful carved screen (said to be worth 30,000*l.*) in the centre of the Imperial Court. Near by is a case of flavouring-essences and granular preparations "prepared from Indian products" by Sutton & Co., London, and a good exhibit of "Coventry" indigo with a series of indigo-dyed cloth that has been tested by sunlight and found to be absolutely fast to light. We came across an exhibit of copra and areca nuts, cocoa-nut oil, and plumbago, but information as to the production could not be obtained.

Ceylon, always so rich in natural products, yields us several interesting staples, such as cinnamon, cinchona, coffee, and tea. Cinnamon comes chiefly from the districts round Negombo and Colombo, and has always been more esteemed than Chinese cinnamon. There are some magnificent specimens shown in vases and also bales. Cinnamon-chips are a minor article of commerce with Ceylon, used chiefly in perfumery, and by Thorley for his food-spice. Specimens of oil of cinnamon from the bark and from the leaves are shown. Some fine quilled specimens of *Cinchona officinalis*, *C. succiruba*, and *C. Ledgeriana* are shown, but, as frequently mentioned in the *C. & D.*, the cultivation of bark in Ceylon is declining, owing to the unremunerative price of quinine.

AUSTRIA-HUNGARY.

The Austrian Section of "Chemical Arts and Pharmacy" has a large space in the gallery. The exhibits are shown in cases of red wood, which are arranged round the walls and in the centre. The floor is carpeted and the light subdued, so that the Section forms quite a haven of rest for weary visitors. In pharmacy, Kleewein (Krems) shows hypodermic solutions in "ampoules," and silvered pills in large quantity. Some of these silvered pills are nicely boxed in square boxes in single layers. Glausch's hæmaticum, a hæmoglobin preparation, was also shown. G. Hell & Co. (Vienna) have another good exhibit of pharmaceuticals. Peptonate of iron and manganese in dry powder, bituminate of iodoform (a combination of tar and iodoform suggested by Dr. Ehrmann), tannate of mercury (first employed in therapeutics by Dr. Lustgarten, of Vienna), petrosulfol (a combination used as a substitute for ichthyol), and honthen (a tannate of albumen employed as an intestinal astringent) are among the specialties of this firm. "Hæmalbumine," containing 0·25 per cent. of iron, and parahæmoglobinate of iron, with 5 per cent. of iron, are two new preparations for the treatment of anæmia. The nucléine Horbeczewski turned out by this firm is of a yellow tint, the same article being often of a brown colour. Janousek Frères' (Prague) exhibit of essential oils is excellent and instructive They show, for instance, a pyramidal series of fou globular bottles, the bottom containing crude oil of caraway the one above it rectified oil, the other two carvene an carvol. A similar series with fennel oil contain (1) th crude oil; (2) rectified oil; (3) the eleoptin; and (4) th stearopten. Then again one sees a series of three larg vases containing anethol prepared from (1) ol. anisi stell. (2) ol. anisi; (3) ol. fœniculi. Dye-products are shown b Oesinger (Raztok). Heavy chemicals are exhibited b several firms; the finest perhaps is made by the Sociét Austrichienne pour la Fabrication de Product Chimiques et Metallurgiques (Aussig). The sample shown are fine and large, the crude materials being show alongside the finished drugs. This accounts for vase of burnt bone, natural phosphate, celestine, pyrites, barytin pyrolusite, and fluorspar. Wagenmann, Seybel et Ci

(Liesing) exhibit chiefly tartar and lees with tartaric acid and cream of tartar. They also show some good specimens of oxide of tin. The PREMIÈRE FABRIQUE AUSTRICHIENNE DE SOVDE (Hruschau) show soda salts. FRANZ PAUL HERBERT (Klagenfurt), white-lead works, show a beautifully white product (blanc d'Argent), and some chemically pure lead carbonate. Another firm, POJATZI & CO. (Deutschlandsberg) devote their space to matches and the chemicals used in making them. They have hit on the idea of colouring the match-heads different colours and arranging them in patterns, heads upwards, in the boxes. Considerable space in an adjoining section is taken up with tanning-extracts and chemicals used in paper-making. We should also mention that Professor ALEX. BAUER (Vienna) shows apparatus for liquefying gas.

Hungarian pharmacy sends six representatives. The firm of MIHALOVITS (Debreczen) show liquid extracts for making syrups of camomile, orange, lemon, and maidenhair. Some aural bougies with a gelatin base are shaped much like the clubs on playing cards, whilst the pessaries are shaped like spheres. BRAZAY (Budapest) shows "L'esprit de sel," an external remedy in triangular bottles, with green labels. BAYER (Budapest) exhibits plasters, purgatif au tamarindien (6-oz. bottles), eucalyptus dentifrice, syrup of the albuminate of iron, and "Vin de Condurango." Dr. EGGER (Budapest) has a cloudy syrup of the hypophosphites and some cod-liver oil capsules the size of walnuts. He also shows sublimate pastilles put up in red bottles. ZOLTAN (Budapest) shows "Crem de Fonohon" and other proprietaries. NEMET (Jemesvar) exhibits a lead and sulphur hair-restorer and "Crem Margaretha."

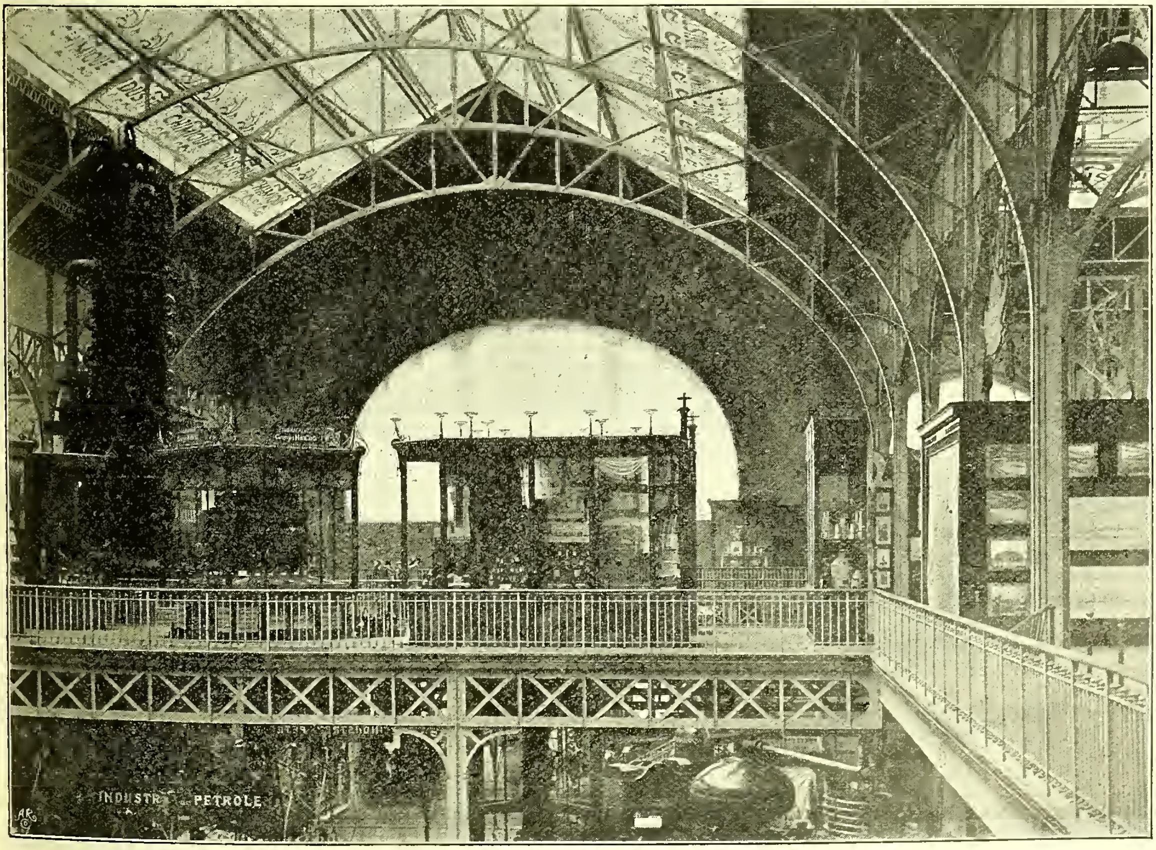
NEMDA (Budapest) has an excellent display of crude drugs, which are shown in nice cases or in bales. There we noticed the pretty blue flowers of *Cianus cœrulius* and *Malva sylvestris*. The flowers of *Malva arborescens*, on the other hand, are black, and are shown without the calices. Elder flowers are shown without the stipules. The HUNGARIAN EXPORT & PACKET TRANSPORT COMPANY (Budapest) make a speciality of Hungarian pepper, an article which finds such ready sale in the canary-fancying districts of this country. The pods shown are 3½ inches long, the powder is put up in tins. BELICZAY (Budapest) shows honey and wax. The honey put up in jars is clear and of a pale colour.

In heavy chemicals, GYAPJUMOSO ES BIZOMANYI (Budapest) display a variety of the by-products of wine. There are tartrate of lime (in fawn-coloured powder), wine lees, tartar, tartaric acid, and eau-de-vie de vin. Carbonate of potash is shown containing from 65 to 90 per cent. of carbonate. The SOCIÉTÉ POUR L'INDUSTRIE CHIMIQUE show chemicals resulting from the distillation of wood—the acetates, acetone, and acetic acid—whilst the exhibit of MUTRAGYA (Budapest) concerns itself chiefly with metallic salts. The NOBEL DYNAMITE FACTORY (Pozsony) has a dynamite museum on show. ARMAND HERZ FILS (Budapest) represent the soap-industry. There are some very attractive soap-fruits shown here, the plums and peaches being almost endowed with mouth-watering properties.

Bitumen and leather are well represented. There is a large leather picture, a mosaic of various-coloured leathers, which should not be missed by visitors.

BELGIUM.

The Belgian Chemical Section when we visited it, was still in an unfinished state, but there was one notable exhibit which no passer-by could miss, namely, the square pavilion of SOLVAY ET CIE., and that Belgian firm, as the parent of the other users of Solvay's soda-process, naturally makes a point of showing where the process is worked. This is done on frescoes, and, in addition to names (Belgium, France, Germany, America, England, Austria, Hungary, and Russia), the frescoes depict the processes of glass-blowing, paper-making, dying, chemical-manufacture, soap-making, and products for domestic and divers uses, in all of which alkali plays a part. Inside this spacious enclosure on four stands



THE AVENUE DE SUFFREN SIDE OF THE FRENCH PHARMACY SECTION.

of wrought iron, are exhibition jars of Solvay alkali-products.

A small but tasteful exhibit of sulphur is made in this section by Koch & Reis, of Antwerp. David & Co., of Monstier-sur-Sambres, have a clean bright stand of chemical products, nicely arranged, but spoilt by careless hand-labelling. A. Van de Kerckhove, of Brussels, is a specialist in products obtained from the feet of animals—lubricating oils from sheeps', neats', and horses' feet.

In the section devoted to substances suitable for colonial trade, running round the front of the Trocadero building, E. Wasserfuhe & Co., of Brussels, have a nice show of oils and ointment-bases; M. Schotz, of Brun Konigfeld, has a small exhibit of essential oils; and J. Serravallo, of Trieste, shows cinchona-wine, with wrappers labelled in all languages, and "citronnade" in bottles shaped like a lemon.

BOSNIA.

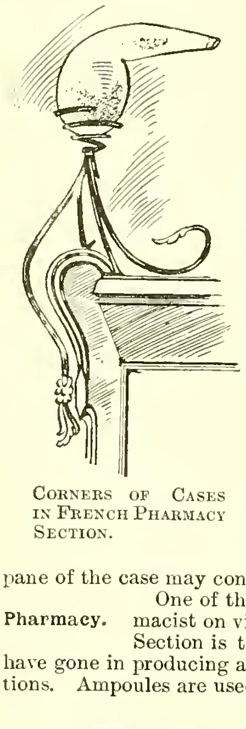
Elie Ivanichevitch shows in the Bosnian pavilion of the Rue des Nations samples of honey-wax and honey-wine. Other exhibitors show bird-seeds, in which considerable business is done by Bosnia.

DENMARK.

The Fabriques Chemiques de Oeresund have specimens of cryolithe, argentiferous galena, pyrites, blende, and spathic iron, presumably the raw materials treated at the firm's works. Two firms show boot dressings, and another fancy inks.

FRANCE.

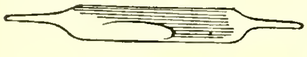
The French chemical exhibits are shown along with pharmaceutical products in the gallery of the chemical-industry palace, and are officially included in Group 14 (chemical industry), Class 87 (chemical arts and pharmacy).



Corners of Cases in French Pharmacy Section.

At the Avenue de Suffren side of this section the border of a large window with circular top has served for recording the names of famous chemists, from Lavoisier to Pasteur, the inscriptions being interwoven with laurel crowns. The only living chemist whose name we noticed was Berthelot. There are in this section over 400 exhibitors, of whom rather more than a fourth show pharmaceutical products or apparatus. The cases in which the exhibits are shown are alike, made of light unpolished wood, the floor round the cases being carpeted or covered with linoleum. The names of the firms are given at the top of the case in blue letters—a position which is not altogether convenient for the visitor. The corners of the case are finished with ornamental ironwork, as shown in the illustration, in which large glass retorts or flasks are posed. The uniformity of the cases gives the visitor an extremely pleasing impression of the whole section. It may be noted that the system of several exhibitors showing in one case is adopted in this section; each pane of the case may contain the exhibit of a separate firm.

Pharmacy. One of the first things which strikes a pharmacist on visiting the French Pharmaceutical Section is the lengths to which his *confrères* have gone in producing aseptic conditions in their preparations. Ampoules are used as the method of packing many of these goods. They are glass tubes, drawn to a point at each end and sealed in a flame after they are filled. M. Naline exhibits in this form aseptic eye-drops, M. Fournier serums. M. L'Abélonye adopts the method for packing ergotin de Bonjean, whilst another exhibitor puts ' saline solution" in ampoules. The method is not new to British pharmacy, but it has become more generally adopted in France since the globe-shaped style of ampoule was exhibited in Paris in 1889. M. Mousnier has among his pharmaceutical exhibit "sterilised oil" and "antiseptic vehicle" prepared for the operating surgeon's use.



An Ampoule.

Cachets which originated in France are shown in great variety of shapes and colours by Chapireau, Digne, Finot, Limousin, and Peltot. Finot's cachets attract attention by reason of some pretty bouquets of flowers—buttercups, daisies, lilies of the valley, and forget-me-nots—made out of cachets. M. Peltot has a model of the Chamber of Deputies built of cachets at the back of his case. It was here also we saw a filling-machine for cachets that has a row of little platforms on to which the powders are weighed. When the required number are weighed out, a turn of a handle tilts the whole of the powders into a row of cachets beneath. M. Chapireau's show of old pharmacy-jars is mentioned in the retrospective section. The lozenge displays are not numerous, but, as a rule, attractive. M. Auge (Lyons) shows chlorate-of-potash lozenges of a pink colour. These are the size of a shilling. MM. Thibault et Olivé (Nantes) have a square form of "tablette" medicated with chlorate of potash and borax. Each lozenge consists of two layers, a white and a pink one—a novelty in medicated lozenges which makes them look quite tempting. M. Vial (Paris) has an exhibit mainly of capsules, sandalwood-oil capsules bulking largely. Billets of Mysore sandalwood and specimens of the root are artistically poised in the case. M. Lancelot exhibits ammonium-valerianate perles. The perles contain Pierlot's solution of ammonium valerianate, which was the form used by M. Déclat, who introduced the drug in 1856. The liquid is made by saturating a solution of valerianic acid with ammonium carbonate, and adding to it a small proportion of alcoholic extract of valerian.

The specimens of pharmaceutical extracts shown are extremely creditable.

M. Grandval (Rheims) has some very fine dry extracts prepared *in vacuo*, these including aqueous extract of roses of a fine crimson colour, extract of green orange-peel. and extract of ox-gall. Other samples of dried extracts, which have the appearance of dried froth, are shown by MM. Boulanger-Dausse et Cie., who also show fluid extracts equal weight for weight with the crude drugs, and a variety of printed-coated pills, the names on them being in different languages.

Fumouze Frères show well-made solidified glycerin preparations of tannin, zinc oxide, belladonna, and boric acid, made on the basis of Unna's jellies. Chaumel's ovules and suppositories made by the same firm have a glycerin basis.

Christen Olsen makes a display of collodion and its various applications in pharmacy. Collodions made with (1) acetate of amyl, (2) methylene, (3) alcohol-ether, and (4) acetic-acid bases are shown. Among the miscellaneous goods we noticed some pear-drops flavoured with amyl acetate and labelled "Bonbons Anglais." M. Castillon's (Paris) case is devoted to strophanthus and its preparations. Three forms of crystallised strophanthin are shown with extract of strophanthus and specimens of *Strophanthus Glabre* and *S. Kombé*. The dose of strophanthin is from $\frac{1}{300}$ to $\frac{1}{100}$ gr.; the granules of strophanthin are official in the Codex.

M. Béguin exhibits vesicating insects and cantharidin. The specimens are additionally interesting from the fact than the exhibitor has labelled them with the proportion of cantharidin they contain according to his own investigations. The following are some of the results:—Chinese andol, 4 per mille; Mylabris de chine, 4 per mille; Meloes, 7 per mille; Mylabris (Indian), 12 per mille; *Cantharis officinale*, 5 per mille; *Mylabris Cichorii*, 4 per mille; *M. pustulata*, 12 per mille; *M. Thunbergii*, 4·2 per mille (the last two are mentioned in the Pharm. Ind.); *M. punctum*, 12 per mille *M. Schœnherri*, 4 per mille; and *M. Sidæ*, 4 per mille. Specimens of Algerian vesicating insects—*Mylabris Tricinata*, *M. Oleæ*, *M. varians*, and *M. geminata*—are shown, and an interesting sample of copper cantharidate (pale-blue in colour).

Several firms show organo-therapathic remedies. The Laboratoires Bounty have a complete collection of Brown-Séquard compounds, such as thyroidin, orchitin, nephrin, thymisin, and hepatin. Specimens of the glands and parts used for these preparations preserved in glycerin are shown.

Liquid preparations of this class are exhibited by another firm, the medium being a glycerin one. The chief pepsin-exhibit is that of MM. Chassaing et Cie., who show pepsin, pancreatin, and peptone. The peptone is in two forms—granulated and spongy—the latter in light round pieces. M. de Jardin shows extract of malt and a dried extract of yeast, which he calls "mycodermine." The use of yeast for the treatment of acne, diabetes, and anthrax has stimulated pharmacists in preparing a suitable method of exhibiting the remedy. One of these is in the form of a dark-brown powder.

M. Verne has in his case an opium-smoker's pipe, also specimens illustrating the collection of opium in the East Indies. The instrument used for scarifying the epidermis of the capsule is made of three blades bound together, and the scratches are made in a vertical manner. In other opium-countries horizontal or spiral scratches are almost exclusively made.

M. Raspail's exhibit is responsible for a pleasant smell of camphor as one walks down the French Pharmacy Section. The camphor escapes through the chinks of the case, the drug being shown in large quantity within. The camphor is arranged in the form of a fountain built up of tablets and bells of camphor in various sizes. Our artist has sketched this exhibit. Another camphor-exhibit is made by MM. Roques et Cie. They show various crude camphors, as well as the glass bells, balloons, and cylinders in which camphor is sublimed. In this section occurs the essential-oil exhibit of MM. Pillet et D'Enfert; the raw material yielding the oils are shown side by side.

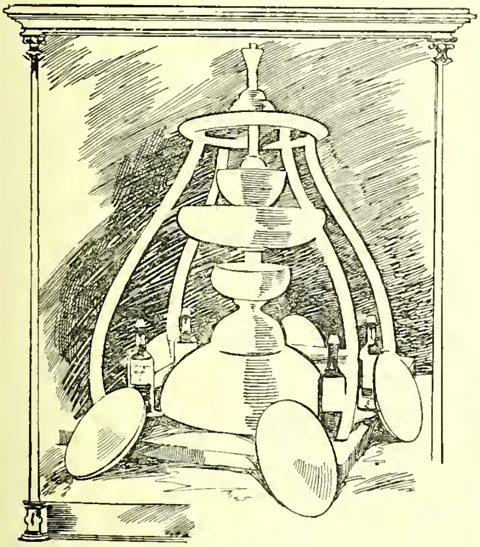


Exhibit of Camphor.

Proprietary Articles. A large number of French proprietary articles are shown. We have only space to mention some of those which possess novel features. M. Astier exhibits arhéol, an essence of santal, to which the formula $C_{15}H_{26}O$ is ascribed. Kola-astier granules are also shown, along with condurango, quinquina, and coca granules. Cerealose, a food for invalids, is also shown here. MM. Bourgettet et Henricet exhibit Papier Fruneau, an asthma-paper medicated with hyoscyamus, celandine, lobelia, digitalis, and belladonna. Jars of these drugs are shown along with the paper. M. le Prince shows in an attractive manner cascarine pills, which are the outcome of his researches as to the active principles of cascara sagrada. M. Degrauve exhibits the well-known Fer Bravais; samples were being given out at the time of our visit. A newer iron preparation by the same firm, called Fer Gaffard, seems to be a powder resembling saccharated ferrous carbonate. On an adjoining stall Soëtenaey's cod-liver oil is displayed along with an aqueous extract of cod-livers. The livers are shown during the maceration-process, the aqueous part being of a red colour. Eupnine, pure iodide of caffein, used as a heart-tonic and diuretic, is shown by M. Vernade. An article called "granular neurosine," containing phosphoglycerate of lime, is a speciality of M.M. Prunier et Cie. M. Dufilho shows ferro-ergoté, or elixir eusthenique, a combination of iron and ergot. M. Delouche makes an exhibit of his saponaceous pills, jars of the ingredients—scammony, rhubarb, and soap—being in close proximity. A leguminous malted "biscotte," shown by Dr. C. Bovet, is in form of sticks, about the size of a stick of liquorice. M. Josset has a well-made preparation of hæmoglobin and peptone, which he calls "hemopeptone," while an assimilable form of iodin called "peptoniode" is shown by M. Galbrun.

In another section of the Exhibition, Steiner's phosphorus rat-paste is shown, and the "Calandrifuge" (weevil-killer) of L. Corbin is given a good show, as well as the insecticides of M. Chertier-Asselin, of Orleans.

Various veterinary specialities are shown by L. Missonier, of Saint-Flour; by G. Pesant, Maubeuge, who has a "poudre St. Etton"—a diarrhœa-remedy for calves; P. Méré, Chantilly; E. Vinsot, Chartres; and by E. Dubosc, who advertises himself as a pharmacist "specially and exclusively for veterinarians."

Fine Chemicals. The exhibit of the Pharmacie Centrale de France (Buchet et Cie.) includes both pharmaceuticals and chemicals, and is divided into four sections. These contain (1) galenicals, (2) industrial chemicals, (3) alkaloids, (4) quinine salts. In the first section is included pastilles and dragées; some very tiny oval "pastilles de menthe Anglaise" attracted us by their pretty green tint. "Croquettes de Chocolate a la Santonine" are medicated medallions of chocolate, and we also noticed pectoral jujubes cut into triangular pieces. Some of the quinine salts shown are rare, such as the bromoguaiacolate (in colour like potassium chromate), the sulphonaphtholate (a pink powder), the double sulphate of cobalt and quinine (delicate pink crystals), the picrate (a yellow powder), and the hydrochloride of urea and quinine. Among the other chemicals are shown chromium sesquichloride of a fine violet colour, nitrosodi-methylaniline, dichroically magenta and green, tartrate of copper and soda of a steel-blue colour, glycocholate of copper, a light-blue powder, and true magnesium citrate, in appearance like glass wool.

M. Trillat's exhibit shows the applications of formaldehyde. Its use in tanning, making artificial silk, photography, disinfecting, and preserving anatomical specimens is illustrated by samples.

M. C. Tanret's case is an object-lesson to pharmacists, the chief things shown being active principles discovered by the exhibitor. In order of time these fall as follows:—Pseudo-pelletierine, which M. Tanret separated from the bark of pomegranate root and stem in 1879; the alkaloids of pomegranate are all tænicides. Waldivine was separated from the powdered fruit of *Simaba Waldivia* in 1880. The glucosides piceol and piceine shown were isolated from the leaves of *Pinus Picea* in 1894. Inosite, which MM. Tanret and Villiers separated from *Juglans cinerea*, was first called nucite, but was afterwards shown to be identical with inosite. Inosite is here shown in the right and left varieties, the left-handed kind being a product of quebracho-bark. Quebrachite, another sugar, was prepared from *Aspidosperma Quebracho* in 1879. Rhamninose, the last of M. Tanret's finds, was isolated from one of the *Rhamni* last year.

MM. Adrian et Cie. are makers of "digitaline cristallisée" of the Codex, the identity of which with the German digitalin has been a matter of controversy for some time. It may be mentioned that the French digitalin is insoluble in water, and was the kind official in the B.P. 1867, where a process was given for its preparation. In this case are also fine specimens of quassin, berberin, digitoflavone, and hæmoglobin in a dark-red cake. MM. Martignac et Lasuer have also fine specimens of "digitaline cristallisée" (Nativelle). M. Nativelle, whose process is here mentioned, obtained the Orfila prize for his method from the French Academy in 1871.

MM. Millot et Saincliver have a good exhibit of alkaloids and granules. Fine specimens of aconitine nitrate, asparagin (contained in several plants besides asparagus), colchicine, absinthin (the bitter principle of absinthe, which Dr. Roux prescribes as an appetiser), hyoscyamine, and sparteine sulphate figure here. The colours of the granules (dosimetric) are varied with the medicament. M. Taillandier (Argenteuil) has a good variety of quinine salts, which include the basic chromate (yellow) and herapathite (dark-green).

MM. Gillets et Fils show tannins prepared with alcohol, ether, and water. There is a trifling difference in tint between these three tannins. MM. Roques et Cie. have a beautiful specimen of sublimed iodine at their case, the specimen being so placed as to show off its fine violet colour. M. Laureau shows marine-plant products, such as iodine, gum, and mucilages. A preparation called "Fucose," for rendering leather and fabrics impermeable, is included. In the collective exhibit of French iodine-makers iodine and iodides are displayed in every conceivable form, with iodoform and allied products. Many firms include in their show of fine chemicals a specimen of crystallised bismuth, but M. Chanut (Billancourt) eclipses all by showing at least a hundredweight of the metal in that form. A number of fine chemicals, usually sent out in an amorphous state, are being prepared by trochiscation. The cones are smaller than those we are accustomed to in prepared chalk. Bismuth subnitrate and lead iodide are presented in this form by MM. Darrasse Frères et Laudrin, at whose stand we noticed among other fine chemicals a sample of manganous lactate, in delicate flesh-coloured plates, which has recently been proposed for chlorosis in grain doses. The cacodylates, which are coming into use as a means of exhibiting arsenic, are shown by MM. Pointet et Girard, MM. Fevre, Alland et Cie., and the Société Federale des Pharmaciens de France. The first-named firm show quinine cacodylate, some beautiful crystals of cadmium sulphate and iodide, and quinic acid in large flat yellow crystals. Calcium permanganate, a bluish-violet salt, occurs in the exhibit of the second firm, whilst in the last-mentioned display of fine chemical products we noted iron metavanadate, used as a tonic and diuretic, pilocarpine nitrate, and hydrobromide of pilocarpidine, "one of the three alkaloids of jaborandi," which has a similar physiological action to pilocarpine. It is strange to look at these samples and think that Dr. Jowett has wiped them out. Yet here they stare one in the face. Atropine is also shown in white slabs, and bromal analgesine, consisting of white crystals with the edges of a rose-red colour, due perhaps to oxidation.

There are also some fine needles of sublimed terpine in this case. Terpine was introduced into therapeutics by Dr. Lépine, and is chiefly used for facilitating expectoration in bronchitis. It is given in the form of an elixir such as the following:—

Terpine	ʒj.
Glycerin	℥ij.
Alcohol, 90 per cent....	℥ij.
Syrup	ʒx.
Tincture of vanilla	ʒj.

One tablespoonful two or three times a day.

Chenal, Donilhet et Cie.'s exhibit is perhaps the finest in the French Chemical Section. It is remarkable for the magnificent specimens of salts of the cerium metals it contains. There are shown salts of praseo-didymium and neo-didymium, the two constituents which Welsbach by fractional crystallisation separated didymium into. The salts of praseo-didymium are leek-green in colour, whilst those of neo-didymium are amethyst; the oxides are also dark-brown and blue respectively. Many examples of these rare salts are shown, and also double salts still exhibiting the exquisite colours characteristic of the simpler salts. There is a range of platinocyanides of rare earths, which must represent quite a fortune in cost. The platinocyanide of yttrium is a dichroic salt showing crimson or green according to the light; the platinocyanide of praseodidymium is leek-green, whilst the platinocyanides of gadolinium, neodidymium, thorium, cerium, and lanthanium are various tints of orange and yellow. Among the *embarrass des riches* were chromium sesquichloride (puce colour), barium permanganate (dichroic, violet, and green), erythrite (in large crystals as clear as diamonds), levulose (in silky tails), and benzile (in lemon-coloured needles).

Manganese and copper salts are a feature of the exhibit of M. Dubosc. The pretty pink of the manganese salts is strikingly contrasted with the dark-green of a fine wheel of crystallised copper-acetate. M. Jolly (Paris) has a collection of phosphates, glycerophosphates, and phosphovinates to offer. Phosphovinate of gold is said to be a nerve-tonic. One small vase holds the phosphate of iron obtained from a hectolitre of ox-blood. M. Helonis makes an exhibit of vanadium and its salts a pivot for introducing "Vanadine," a tonic-elixir for internal use. Vanadic acid (V_2O_5) is shown in ruby prisms. The vanadate of soda is white, whilst the bivanadate is a red salt. These contrasts of colour provide a practically unexplored field for experimentalists.

M. Coirre exhibits leucocythine, a chemically pure sodium cinnamate, used internally and hypodermically in the treatment of tuberculosis.

Dr. Bengué exhibits chlorethyl and anestile (a mixture of ethyl and methyl chlorides). The spray-bottles in which this is sent out have a metal nozzle through which the spray is delivered; the bottle also is graduated. Cacodylate of guaiacol, one of the latest combinations of cacodylic acid, is a liquid here shown in ampoules.

In the French Surgical Instrument Section, Dr. Coudray shows his "Ipsilos" apparatus. Various antiseptics, iodoform usually, are dissolved in chloride of ethyl so that when the container is warmed in the hand the chloride of ethyl is vaporised and takes with it the antiseptic. The apparatus is intended for carrying antiseptics to deep-seated cavities which it is impossible to reach by irrigation.

At M. Champigny's exhibit, which is chiefly of creosote oils, synthetic creosote is shown. The creosote of the Codex is required to contain 20 per cent. of guaiacol, 40 per cent. of cresol, and 40 per cent. of monatomic phenols, the latter to contain about 15 per cent. of cresylols.

M. Dubois makes a special exhibit of creosal, the tannic ester of creosote. It is known also as tannate of creosote and tannosal. Creosal is a hygroscopic brown powder, soluble in water, given in doses of 2 to 3 grammes a day, as an internal antiseptic in tuberculosis.

MM. De Laire et Cie.'s exhibit is of fine chemicals, among them are butyl derivatives, fine crystals of terpine, cinnamic alcohol, menthone (an oxidation product of menthol), carvone (from carvol), and acetamide (the amide of acetic acid, prepared by the dry distillation of ammonium acetate). Baur's artificial musk and Mulder's bergaptene (the stearoptene of bergamot oil) are also shown.

At Poulenc Frères' stand specimens of crystallised calcium, made by Moissan's process, are shown; they have the appearance of powdered zinc.

Heavy Chemicals.

In an agricultural and wine-producing country like France, it is natural to find many exhibits of gelatins, bone-charcoal, and tartaric acid. The wine-industry requires special kinds of gelatin for clearing-purposes, whilst the manufacture of beet-sugar uses up a large quantity of animal charcoal. The gelatins shown are carefully stood up against the light, so that their colour can be judged. The bones are freed from grease by digesting with benzin, and the gelatin obtained afterwards by boiling with water under pressure. Animal-charcoal is made from the exhausted bones. Burnt leather and torrefied horn are varieties of charcoal esteemed in sugar-factories on account of their high decolourising properties. The exhausted animal-charcoal from sugar-factories is used for making superphosphate manures.

The chemical-manures shown are labelled with the percentage of nitrogen or phosphate they represent. Most of the phosphate manure is made from mineral phosphates, whilst blood yields a manure rich in nitrogen. A compound manure of definite composition, containing 9 per cent. nitrogen, 5 per cent. assimilable potash, and 6 per cent. of soluble phosphoric acid, represents a type of manure in use in France.

Sulphates of iron and copper find a large sale in France for making the "bouillie" required for dressing vines. The Société Produits Chimiques de l'Ouest have a good exhibit of heavy chemicals, saltpetre being shown in masses, needles, refined, and crude states. Viticulture is again responsible for the existence of tartaric-acid factories in France. MM. Mante, Legré et Cie. show a series of wine-lees and argols, the lees containing from 15 to 17 per cent. of calcium tartrate, the high proportion of lime being due to the plastering of wines in the manufacture. Scheurer-Kestner's process for making tartaric acid, generally followed in France, consists in dissolving the lees in hydrochloric acid to separate colouring and organic matter, and then precipitating with chalk or lime. M. Martignier (Agde) makes a display of tartar from various districts, pure cream of tartar, and tartaric acid. The large letters A.G.D.E., which are such a striking feature of this exhibit, are formed of crystallised tartaric acid. MM. **Doix-Mulaton et Wolf** make citric acid as well as tartaric acid. Samples of crude lemon juice shown here are nearly black.

Fluoric acid and fluorides are a speciality with M. **Bourdeau.** Among the fluorides may be seen those of chromium, zinc, sodium, and ammonium.

L'Usine St. Ouen—l'Aumône—produced 943 tons of prussiate of potash last year. This factory also turns out large quantities of the resinates used as siccatives and chemicals for dyeing. Near by is the exhibit of M. **Asselin** (St. Denis), which is of chemicals obtained from waste products, such as old iron and copper. Next to this the **Borax Consolidated** have an exhibit of "Bi-borax."

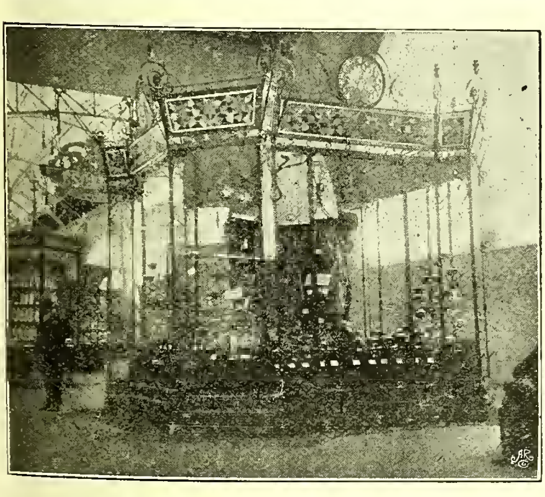
Sulphur is represented by four exhibits, those of MM. **Meiffren, Esmien, Frontignan,** and **Boude.** The first two firms show sulphur-wicks, strips of cloth dipped in melted sulphur, which are not much in use in this country. One had the strips of sulphur coloured violet. "Mèches Marseillaises" is what they are called, Marseilles being a sulphur-refining district.

MM. **Sellier et Beaudet** have a show of silicates, potassium and sodium silicates being there in both liquid and vitreous form. MM. **Bounet et Marnas** have sodium silicate in vitreous form, but of a blue tint. The silicates, in addition to their use in surgery for stiffening bandages, are largely employed in making artificial stone, and sometimes as an addition to soap. M. **Gélis** displays arsenic and sulphur salts. Sulphydrate of soda for use in pharmacy is here in yellow lumps, and hyposulphite of soda is shown as a white anhydrous powder and in small crystals.

Peroxide of hydrogen (eau oxygenée) is well represented. In one case the bleaching effect of this solution on cotton, bristles, silk, and wool is illustrated by samples. Binoxide of barium, from whence this product and oxygen are obtained commercially, resembles small lumps of pumice.

Eau de Javelle (solution of chlorinated soda), so universally employed in France, is well represented in this section; there are many different brands. One we noticed had a glass measure inverted over the neck of the bottle, an india-rubber band making it fit so well as to act as a stopper. The measure is for gauging the quantity of solution for household purposes with accuracy. Washing-powders, plain or with carbolic acid, and perfume are also shown.

Dyeing Chemicals. Dye and colour exhibits naturally lend themselves to pretty displays. Dye-woods and colouring principles extracted from them, such as brasilëine and hematoxyline, are numerous, as also are mineral dyes. In one exhibit we saw twenty-five different tints of cadmium yellow. It is difficult to imagine that such a variety of one colour could be prepared, but when they are displayed side by side the differences in the tints are shown to be distinct. We noticed also four tints of cobalt blue, three of cobalt green, and two of cobalt violet. The **Société Ame des Matières Colorantes et Produits Chimiques** have a beautiful display of aniline dyes in a case which ranks with the most artistic in the Exhibition. It would not be profitable to give a list of the dyes shown at this stand, but it is long enough to show that the dye industry in France is of considerable importance.



Dye Exhibit in French Section.

The **Société Chimique des Usines du Rhône** (Lyons) have an important exhibit of synthetic perfumes and indigo. The light-resisting properties of artificial and natural indigo are compared, the testings having been carried out by the Naples University. The tests show, if anything, that the artificial dye is more permanent. The "Lance" perfumes, in tubes with metal caps, are shown here side by side with coumarin, vanillin, and nerolin. Boric acid in large pearly-white crystals, salol in diamond-shaped crystals, and phthalic anhydride in needles 4 inches long are some of the fine specimens that attracted our attention.

Gasworks-products include also distillates such as gazine, for enriching gas, asphaltine, and coaltarine varnishes with coal-tar distillates as bases, the rise of the motor-car being responsible for special brands of motor gaz. Square tins with screw-stoppers are the approved form of containers.

Soaps. The seat of the soapmaking-industry in France is Marseilles, where it was started in the twelfth century. The production of soap at Marseilles has grown from 86,000,000 kilos. in 1876 to 140,000,000 kilos. in 1899, the production of the whole of France last year being estimated at 250,000,000 kilos. "Marseilles soap" is the olive-oil soap well known to pharmacists as white Castile soap, and contains only about 21 per cent. of water. It should be remembered also that to the researches of Chevreul we owe the commencement of our knowledge of the actual chemistry of soapmaking. A syndicate of forty-two firms show in one case the varieties of soap they manufacture (not very many considering the possibilities in soap nowadays), and in a leaflet they distribute point out that a 3 to 4 per cent. solution of Marseilles soap has been shown by Parville (*Journal des Débats*, May, 1899) to be the best disinfecting-soap, as it kills microbes quicker than any other soap. Besides the syndicate several other Marseilles soapmakers show their wares. Most of the soap-exhibitors have pieces of soap-statuary as crowning-points to their shows. M. **Arnavon** has a good variety of glycerins and oleic acids yielded from various oils. M. **Eydoux** and **Orange et Cie.** show types of the soap sent to various countries. Cayenne, China, and Dahomey apparently prefer small cakes weighing about 1½ oz. each, whilst Great Britain likes a 4 or 5 oz. cake. As a rule, soap is supplied put up in ½-lb. cakes for home consumption. The mottled (blue or red) variety of Marseilles soap is shown as well as the white, and a chocolate-coloured soap is made by several exhibitors. It is known as "Savon Bronze" or "Savon Chocolat."

Glycerin. The glycerin-industry, which is bound up with soapmaking, is fairly represented, the **Soc. Française des Glycerins Pure** (Clichy) having an exhibit which includes all sorts of glycerin-products from printers' rollers to glycerin suppositories.

Candles. An industry allied to soap is that of candles. Several firms show candles along with soap, and allow their imagination to run riot in the decoration of enormous altar-candles. The favourite household candle in France is one pierced with holes from top to bottom—a contrivance which prevents guttering and is economical of fat. As a rule the French candles are more ornamental than English ones, all sorts of shapes being manufactured. MM. **J. Binoche et Cie** have a beautiful bust overshadowing their exhibit made of perfectly white stearine. Some of the candle-makers have samples of the materials they use in their industry, such as copra-seeds, cotton-seeds, palm-nuts, and suets. MM. **Lacone Frères** have a special nightlight for photographic dark-lamps—"La Photo Phare"—which, it is claimed, gives a soft light and requires no snuffing. These lights are pyramid-shaped.

The show of wax made by the **Société Générale des Cires Française** is characteristic. The wax is in all sorts of forms, from large masses down to small well-shaped cubes for retail trade. Little square cakes tied round with ribbon is another attractive line. The cakes minus the ribbon would be very convenient for retail trade in this country.

Oils and Greases. Among these exhibits we observed a very complete one of vaseline oils and paraffin greases by MM. Stern (Pautin), who are known to British pharmacists through their London house. We could not help admiring the brilliancy of the medical vaseline oils in the case. At M. Artus's case we saw samples of neatsfoot oil, absolutely clear and almost colourless, obtained by a long process of purification—a variety not often seen in this country. There were also shown specimens of "Huile de cheval" and "Huile de pieds de mouton," animal oils being a special manufacture of M. Artus. The horse oil is of a brown tint; the sheep's-foot oil colourless. Machine greases and tarandine, a saponifiable oil for preventing incrustation in boilers, were shown by M. Constant (Clichy).

Inks and Blackings. The mention of wax reminds us of the numerous exhibits of furniture-polishes, blackings, and boot-pastes. One maker was letting water drop on a boot which had been treated with his blacking to show its waterproof character. Among the names given to blacking we noticed "Cirage vernis des Boërs." The ink-makers were able to make their exhibits attractive by means of the various colours of the inks, and by dainty ribbons tied round the necks of the bottles. Nitrate-of-iron solution was exhibited in one case of ink, that being presumably the iron salt used in the exhibitor's inks.

The varnish exhibits are not numerous, but are interesting to pharmacists on account of the variety of gums used in their manufacture. At one stall we saw specimens of Sierra Leone, Zanzibar, Madagascar, Angola, Manila, dammar, and kauri gums.

The Detached Portions. In the "Hygiene" Gallery M. Beguin, of Paris, has an exhibit of models of insects employed in medicine, and their products. The following will indicate the nature of the exhibit: meloes, cantharides, cochineal galls, animal kermes and lac (*Coccus lacca*).

In the Alimentation Gallery, surrounded by various marvellous creations in sugar and spices, we dropped across a tasty display of mydriatics by the Société Federal des Pharmaciens de France. A large jar in the centre is filled with atropine, and others contain, we should think, 4-lb. quantities of hydrochloride and nitrate of pilocarpine. In lesser quantities, cocaine, physostigmine, and picrotoxin are exhibited in flakes. Leaves of cocoa, belladonna, and jaborandi are shown, as well as specimens of Calabar beans and kola-nuts. An adjoining stand, belonging to Roman Baczynski, contains a considerable variety of oleaceous and aromatic seeds. Preparations of tannin are in this exhibit well to the fore. These include ether tannin in long light-yellow needles, tannoformal, and tannate of quinine. Vaseline, ointments, and extracts are also exhibited. Medicinal herbs also have a strong display in this gallery, one noticeable exhibit being that of Fouché Frères, of Houdan. This exhibit is most comprehensive, such plants as marjoram, rue, hyssop, peppermint, chamomile, and angelica being included. The fruit of *Datura stramonium* is shown entire. In the same vicinity Henri Hirsch et Fils, of Paris, have an exhibit of the same character, but more ornate. Chamomiles seem to be a speciality of this firm, and are shown in large bags and square bales. Leopold Weill & Co., of Loneville, have a similar exhibit.

That Parisian institution, the "aperitif," which is more or less the equivalent of our English gin-and-bitters, seems to be the reason for a considerable industry in stomachic essences. Many exhibits in this gallery are devoted almost entirely to such preparations, including essences of gentian, aniseed, quinine, and peppermint. The last seems to be the favourite, and one entire stand is devoted to Alcool de menthe de Ricqlès. At the end of this gallery, bordering on the interesting section devoted to exhibitions by the various Philanthropic Societies of France, a Sparklet bar is in operation. This department is well patronised, owing to the hot weather and the promptitude and novelty of the display. A considerable business is also done at a similar stand devoted to the interests of St. Raphael Quinquina.

Minerals. The Mines and Metallurgical Section contains several noteworthy exhibits of rare minerals. Antimony, crude and in its refined stages, is effectively displayed from the Mines de la Lucette, of Mayenne, and similar exhibits are made by E. Chatillon, of Broude, who shows oxysulphate and oxide of antimony, M. De Truchon (Paris) who displays antimony from the Pyrenees, and E. Beau (Alais) whose exhibit includes a piece of black antimony sulphide and glass of antimony in thin black cakes. The prettiest and most fascinating show from the public-interest point of view are the exhibits of E. Gilber & Co., Paris, and the Comptoir Lyon Allemand, who exhibit auriferous and argentiferous quartzes and ingots of their manufactured products. The former firm also show platinum. There is likewise a case containing 95 kilos. of plates consisting of silver deposited on copper in the proportion of 20 gr. of silver to 1 kilo. of copper, which are used in the manufacture of pasteurising-apparatus. There are many other exhibits of native metals.

In the section devoted to electrical chemistry many interesting things are to be seen. The Société de Electro-Chimie, of Paris, attracts the passer-by with wreaths of potassium and sodium chlorates and samples of chromate. A curiosity in this case are the crystals of chromium and uranium.

In an out-of-the-way corner of the Exhibition we came across an exhibit by the Chartreuse Monks. At the time of our visit the attendant was filtering a bottle of yellow Chartreuse. The show consists of jars of the ingredients used in making the famous liqueurs, but the various herbs were mixed up, so that we could not distinguish any of the constituents.

The French Colonies.

Colonisation is in the Parisian air this year. The French people are shown on the Trocadero grounds what they have got for their money. It looks a goodly return, but views on the point vary. Anyway, the Colonial Office has made a brave show, and some of the most interesting and delightful parts of the Exposition are in the Trocadero gardens.

A Bit of the Trocadero Gardens, showing Russian Building.

In the museum of French colonies we found an interesting collection of medicaments and sundries suitable for the colonies. The collaborating director of this important exhibit is M. Schlagdenhaufen, director of the Nancy School of Pharmacy. An exhibit of a somewhat similar character is made by the Service de Sante des Colonies. One of the specialities which this body seems to consider necessary for the health of colonists is Orezza water. Some of the other necessities are eucalyptus oil, cotton-wool, Dr. Franc's grains of health, Vin Conto, and thymo-menthol fluid.

Algeria is, of course, the most important of the colonies of France. It is splendidly housed in Arabic style, and one of the first objects which the visitor sees on entering the central hall (a reproduction of part of the mosque of Abd-el-Kader at Mascara) is a magnificent *papier-mâché* relief map of Algeria. In the bays of the inner courts we found many samples of vegetable produce, including exceptionally large castor-oil seeds, said to come from *Ricinus rubra*—doubtless a variety. The markings are bright crimson. The samples of olive oil are numerous, and some of them excellent in quality, but we could obtain no information about them on the spot. By good fortune we discovered that Mr. Frederick Boehm, of Jewin Street, E.C., has recently introduced the Algerian olive oil into the English market, and he has obtained for us interesting particulars and the two pictures which we reproduce. The soil of Algeria is well suited for the cultivation of the olive, and this culture is carried on in the three provinces, as well as on the borders of Morocco and in Tunis. The best districts in the French Possessions in North Africa are at Tizi, Ouzou and Mirabeau, Kabylie. Olive oil has been manufactured in Algeria for centuries, and the Arabs have always known the advantages of grafting. French colonists at first bought the oils manufactured by the natives, but the methods employed by the latter were so poor and their tools so elementary, that they never succeeded in producing fine oils. The inclinations of the Arabs opposed any improvement, so that factories fitted with the latest machinery have been established for some years in the centre of districts formerly avoided by the colonists. As the roads increased factories have become more numerous. In the Bougie Valley a good harvest can supply the factories with sufficient olives to feed all their presses. The Arabs have got into the habit of bringing their olives to these modern factories, and there are few more picturesque sights than that of whole families wending their way thither with huge loads of olives. The muleteers often travel ten to twelve kilometres, carrying their olives in bags or in goatskins. Arabs living in more distant villages—some of which are so high that from a distance they appear to be inaccessible, perched on the summits like eagle's-nests—press the olives themselves, and bring the oil in goatskins to the buyers of oil who visit the district at the harvest period. Arabian pressed oils are preferred by the indigenous population, who are accustomed to them, and who consume large quantities. The women and children also bring their olives in baskets, which they carry on their heads or backs. These olives are all gathered by hand, and pressed by themselves, because the yield is not so good as that from olives carried in bags, because they still contain all the vegetable-moisture, which partly drains off during transport of a few miles on mule-back. The oils thus obtained are dear, but they are of extra quality.

Olive Oil.

Bringing Olives to the Oil-factory.

Arab Olive-mill.

As soon as the olives are delivered at the factory they are weighed and paid for, the money being anxiously awaited. It is this anxiety to sell which often causes immature olives to be gathered, and for this reason the oils at the beginning of the manufacturing season are not suitable for all countries. The best oils are made from the olives gathered late in the season, and about February the oils pressed compare in colour and flavour with the best oils of Provence and Italy. There are districts in Algeria where the olive-worm has never appeared. These districts are always in fairly elevated parts at an altitude of 700 or 800 metres above the level of the sea. The olive-trees growing on the plains and on lower ground are subject, like those of other countries, to the ravages of a worm, but much less than any other region, so that it is a very rare thing not to be able to produce good oils.

Guinea.—On the first floor of the Guinea pavilion are samples of kola-nut and caoutchouc.

Tunis.—Among the samples of local produce are soaps and perfumes and linseed (from Soussa). Sponge is also fished for from Djerba and the Sfax coast, and olive-oil pressing is an important local industry.

Senegal and the **Soudan** has as one of its chief exports acacia gum, which annually represents a value of 180,000*l.* One hundred thousand tons of ground nuts and 340,000 kilos. of indiarubber are also exported. Most of the indiarubber comes to Liverpool.

The **Ivory Coast** colony is developing an export trade in indiarubber and palm oil, but its chief wealth is due to mahogany and other timbers.

Martinique is one of the oldest of the French colonies, and coffee, sugar, and vanilla are its chief products.

La Réunion is rich in mineral resources, agricultural products being gum senegal, vanilla, cinchona, guttapercha, and spices.

French Congo.—The exhibits from this colony are shown in a building which is to be sent out to the colony for use as a post-office. The chief exports of the French Congo are ivory and caoutchouc. The Government established a botanical garden in 1887 at Libreville, and are doing all they can to encourage the cultivation of coffee, cocoa, pepper, and vanilla.

French Guiana is chiefly interesting on account of its mineral resources, of which gold ores and phosphates are the chief. Secondary products are gums and resins, vegetable oils, and tanning materials. The colony formerly exported large quantities of annatto, but in 1897 the quantity dropped to 1,912 kilos. (it was 567,000 kilos. in 1885). The exports of cinnamon, nutmegs, and cloves have dwindled to nothing. Specimens of cashew gum (*Anacardium occidentale*), elemi (*Icica guianensis*), and copal (*Hymenæa Courbaril*) are shown.

Mayotte and the **Comoro Islands** yield vanilla, pepper, and cloves. The vanilla-cultivations of Mayotte are very important, the climate being most favourable for vanilla growing. Mayotte vanilla ranks next after Mexican vanilla. About 3,500 kilos. were shipped to France last year, and about 4,000 kilos. of cloves.

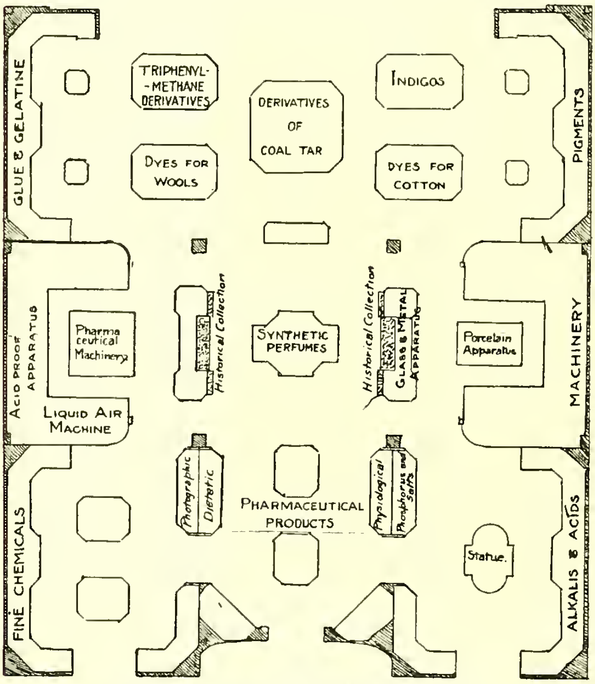
Guadelope.—A walk through this French dependency reveals the fact that, in spite of floods, earthquakes, and cyclones a considerable cultivation of medicinal products prevails. We observed castor-oil seeds in abundance, black pepper, cloves, and various varnish-gums, besides considerable quantities of vanilla and spices. Honey and beeswax are also shown. Loofahs and quassia are amongst the other pharmaceuticals. Sugar is the chief product of this, one of the oldest of the French Possessions, caoutchouc being also produced but not in large quantities.

Indo-Chine is chiefly interesting to us from the fact that British India supplies Cochin China with three million francs' worth of opium a year, and takes from us also cotton-thread of double that value. A pagoda in the exhibit contains the most important products of Tonquin, Annam, Laos, Cambodia, Quang-Tcheon-Wan, and Cochin China. We noticed wax, honey, indigo, dye-woods, ground-nut and cocoa-nut oils, areca-nut, and raw and manufactured opium, but, strange to say, no oil of anise, although some of the best comes from the colony.

New Caledonia.—Besides nickel, antimony, cobalt, copper, and chrome ores, this colony sends for exhibition india-rubber, vanilla, ginger, gums, and sandalwood oil. The last is apparently of the West Australian type.

GERMANY.

"Allemagne" was not represented at the last Paris Exhibition; it is one of the best represented of foreign nations in the present one. The Strasburg monument in the Place de la Concorde never lacks its woeful decorations, but the people are calm, and the Teutonic tongue is heard more than any other foreign language, saving English, as one wanders through the Exposition.



Ground-plan of the German Section.

One of the most important of the German sections is in the Chemical Industries Palace; it is by no means *the* most important, for in the metallurgical and mechanical departments Germany *über alles* with a vengeance. The Chemical Court suffices for us, however. It is an improvement upon
the similar Court which Germany had in the Columbia
Exhibition at Chicago in 1893, which in its turn was a
adoption of the French Chemical and Pharmaceutical Cou
in the Paris Exposition of 1889. The essential idea of th
exhibit is, first, uniformity of design in what may be calle
the furniture; second, subjugation of the individual for th
good of the class; third, elevation of exhibiting to th
museum standard; and, fourth, fostering business by mea
of a Secretary on the spot to answer inquiries. These veril
altruistic ideals are splendidly realised on the Cham
de Mars, and prosaic, stubborn John Bull, who has mad
his way in the world by looking after himself, looks som
what in need of grooming beside his friend Fritz.

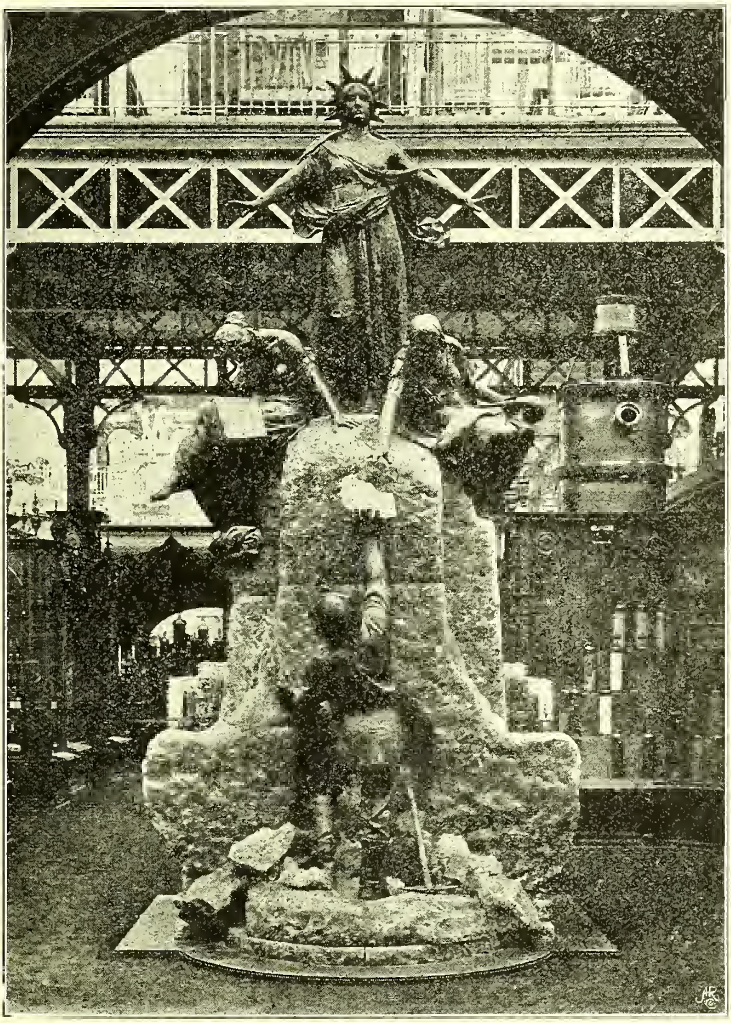
An idea of the regularity of the German Court is given i
the ground-plan in the preceding column.

It is ridiculously like the Chicago arrangement, but th
time it is a one-man show, in the sense that it is th
German Chemical Industry that is put to the front rath
than the manufacturers. Not a single sign nor a maker
label is to be found in the whole Court. The cases are ma
of light oak and plate-glass, the background for the spec
mens being a delicate dove-grey plush. Considerab
originality and ingenuity are shown in the specimen-bottle
such as in those, for instance, used for phosphorus an
various metallic salts. In the latter case the specimens a
exhibited in cylindrical jars with a metal top and botto
the label being formed by an artistic metallic projecti
rising from the lid, with the name of the contents in relie
It will be seen from the ground-plan that the exhibits a
systematically grouped. The exhibits are, of course, draw
from the principal manufacturers of Germany, and t
catalogue forms a bulky and impressive quarto volume,
which particulars are given of the names of the manufa
turers, the nature of their trade, how long established, a
what they can do. Now, let us look at the exhibit from t
scientific standpoint, which seems altogether the mo
appropriate point of view.

It is the magnificent exposition of modern organ
chemistry—chiefly synthetic—and the excellent servi
which this can render to any willing student, which princ
pally accounts for its value. There are dozens of studen
of chemistry who will rattle off names and formulæ, and te
you the exact method of preparing, and the constitution
the various dichlormethyl-anilines, and draw foolscap shee
of hexagons to show what is meant, but who has not t
slightest idea as to whether this body is a liquid or that
solid; or whether this is coloured or that colourless. A
colour and crystalline form are often so characteristic as
be unmistakable, so that if one cannot distinguish the *orth*
para, and *meta* cresols entirely by their appearance, one c
at least know which is solid and which liquid. Thus a d
or two with a text-book of organic chemistry in this secti
would be an educational boon to many a chemical student.

The first object to arrest the attention in the Court is t
gigantic Stassfurt statue opposite one of the entranc
This is wholly constructed of the native chloride of pota
sium in blocks from the Stassfurt mines. It is symbolic
the sway of science over all the products of the earth. T
miner, pick in hand, is presenting the goddess of the reto
with a piece of the dearly-won mineral which he has broug
to light. Another female figure, seated, appears to represe
that element in German chemistry which has become
notorious of recent years—the literary searcher. Over
Science stands erect, bearing her message and showering
blessings *über alles*. Passing the group we enter the carpet
salon and walk towards the central case, again attracted
the female form divine, Science again, who stands on
globe of coal-tar which surmounts a heap of coal
fons et origo in verity. Science holds a rainb
aloft. Everything in the case is arranged wi
Synthetics. the same system as one finds in organ
chemistry text-books. One can trace the p
ducts of the distillation of the tar, from benzene, tolue
and the three isomeric xylenes, right on to the phenols a
solid hydrocarbons, naphthalene and anthracene. Af
tracing all these bodies, one can commence with the ma
factured products. In this department Dr. Wichelhaus, t
director of the Technological Institute of the University
Berlin, has prepared an excellent catalogue, in which ea
of the more important simple compounds is described in t
following manner—*e.g.* 83 *o*-phenylenediamine, discover

by P. Griess, 1871; from *o*-diamidobenzoic acid (*Journ. f. Prakt. Chem.* [2] 3S, 143); Zincke and Sintenis, 1873, from *o*-nitraniline (*Berichte*, 1873, S, 512). This descriptive catalogue is extremely useful and interesting. Naturally the starting-point of the manufactured products, which, in the main, lead up to the aniline and azo dyes, is nitrobenzene, of which a large vase is shown. Specimens of aniline, the reduction product, and of the substituted anilines, such as dimethyl aniline, a body of enormous importance in the preparation of certain colours then follow, and we are then taken on to the diamines. These are interesting, inasmuch as the ortho-, meta-, and para-phenylene diamines are shown together. And so this goes on right up to the complex phenol and naphthalene derivatives. One cannot fail to remark the liberal quantities of the various preparations which are shown, and in many cases how very fine the specimens are. The crystals of alizarin found here, as well as those of indigo, *m*-dinitro aniline, *o*-nitrobenzyl aniline, and anthopurpurin are all exceptionally beautiful. After the preliminary typical compounds are disposed of, one turns to the actual colours, of which no fewer than sixteen accurately classified groups are given. But one failing is apparent here. Although a fine specimen of fuchsine in large crystals is shown, no mention of this or of any other colour which has been discovered by an Englishman is mentioned in the catalogue. The descriptive account is entirely German, and is illustrative of German chemical progress only. The dyes are arranged in the following groups, and hanks of wool are shown dyed with the various shades: nitro colours, azoxy colours, azo colours—necessarily the largest group—auramine derivatives, triphenylmethane derivatives, the original old "aniline dyes," pyronine colours, acridine compounds, nitroso derivatives, oxyketone dyes, indophenol, oxazine and thiazine colours, azines, thioglavin, quinoline yellow, aniline black, artificial indigo.



The Stassfurt Statue.

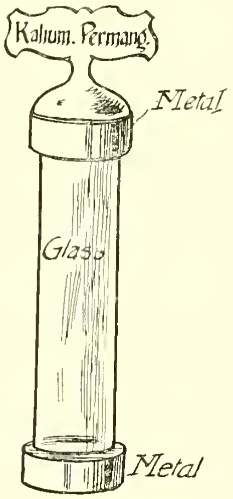
It seems a hopeless task to attempt to particularise further, and when we state that each of these cases—and there are five—contains something like 300 different specimens, the extent of the exhibit may be appreciated. The attractive manner in which each separate show in the same case is set out, and the perfect arrangement of the various colours in their groups, is in each case heightened by the cushion-like arrangement, made of wools, cottons, &c., with all the colours represented on a graduated scale. In the triphenylmethane case we noted some extra-large triangular feather-shaped crystals of fuchsin, and other beautiful green crystals of methyl-violet. These were mostly displayed in flat glass jars, varying in size according to the importance of the product. Amongst the greens a malachite was exceptionally brilliant, and Martius took the palm amongst the yellows, both in size of crystal and beauty of colour, while "Philadelphia-gelb," in the same group, had a homely American "twang" about it, which was wholly lost when we contemplated "alphaphenylrosindulinmonosulfosaüre," or even "tetramethyldiamidophenylmethan." A continued contemplation of these synthetic colourants induced a neighbouring student with poetic propensities to mutter—

> " O gaily we ride on the Indigo tide,
> Or revel in Chrysoïdin;
> But crystals are few, with an ambery hue,
> Like Nitro-dimethylamine."

Essential Oils. Not less interesting is the exhibit of essential oils and the products connected with them, but here the interest is greater to the specialist than to the student. Shortly before the Exhibition opened a well-known continental firm announced that they could not exhibit at Paris, as essential oils were not goods which could be displayed so as to appeal to the public, and also that they deteriorated so rapidly as to become more or less unsightly. The ocular demonstration here given seems to dispute this assertion. Not only has the exhibit proved of considerable interest to the general public, but the contents of the case after some weeks show practically no signs of deterioration. Only in one case could we find a sample of oil which had deposited a little water and consequently become turbid. All the important essential oils are shown, but of course not nearly all that have been prepared. We think an arrangement in accurate botanical classification would have been more suitable and more profitable. The individual specimens of these oils call for little special comment. Amongst the most noteworthy are the series of natural-flower oils, which are products not very commonly met with in commerce. These include real heliotrope, violet, mignonette, and syringa-flower oils. Of the remainder, all that need be said is that they are, in general, very fine specimens, and in those cases, where it is admissible, the colour is as light as possible. This is especially the case with cassia oil, a sample of which with less colour we have never met with.

The rapid advance in the chemistry of essential oils is to a certain extent reflected in this section by specimens of the terpeneless oils. Costly samples of the oils of bitter orange, sweet orange, mandarin orange, lemons, bergamot, and of the immature orange are shown. Vases of the respective terpenes are also displayed, but as these are identical in appearance, and in many cases practically identical in composition, one cannot force much interest in them.

A step beyond the terpeneless oils we come to the unique collection of active principles, if we may so use this well-worn expression. There we may take it that every one of the more characteristic constituents of essential oils yet discovered is on view. Specimens of citral, citronellal, anisic aldehyde, cumic aldehyde, geraniol and linalol, and their esters, and santalol. There is an excellent specimen of guaiol, the solid alcoholic constituent of the oil which Merck (who discovered it) believed to be that of true guaiacum-wood, but which is now known to be the product of *Bulnesia Sarmentii*. Here is, too, a specimen of cedrol, the solid sesquiterpene alcohol of cedarwood oil. The most modern researches on this group of bodies have been kept in mind, and are all well illustrated. For example, there is present a vase of methyl anthranilate, a body which has only quite recently been discovered to be present in the oils of neroli, jasmin, orange, and lime flowers, and the two stereoisomeric forms of citral discovered by Tiemann shortly before his death—citral *a* and citral *b*—are also shown. The recent researches in sandalwood oil, of which we published the earliest accounts in English, are all to the fore, and we find specimens of santalol, α-santalol, β-santalol, α-santalene, β-santalene, amyrol, and amyrene (from West Indian oil). We cannot refrain, however, from remarking that it is most improbable that any one of these can safely be regarded as pure compounds. They are at present little else than practical distillates showing distinct evidence of the existence of the respective bodies. Jasmone, the newly-discovered ketone of jasmin oil, is here. Indeed, the only really new discovery we can call to mind, and which we cannot find illustrated, is the ketone verbenone present in the oil of the true verbena (*Lippia citriodora*). There is even a new alcohol from oil of roses which has not yet been named, but no evidence of the authenticity of this is forthcoming. Réuniol, the alleged alcohol from Réunion oil of geranium, should, we think, have been omitted from this collection, as it is almost beyond doubt only impure geraniol.



One Style of Labelling in German Section.

Synthetic perfumes are well illustrated, and are proving objects of much curiosity to the general public. In many cases exhibits here cross those just described, and are not in the least synthetic. For example, we again have specimens of citral, linalol, and geraniol. We find not only a fine sample of pure ionone (as distinct from the 10-per-cent. solution of commerce), but also the two stereoisomeric forms corresponding with the two citrals, α- and β-ionone. Sapirone also is here, and eucalyptol in its absolutely pure state. There is also a very good collection of the fragrant esters, such as ethyl acetate and its homologues. But why are "irolene" and "narccol" present? These are merely described as artificial neroli and jasmin oils, and no clue is given to their composition. This is not proper in a national exhibit where names of exhibitors are not given. Trade-marks should also be suppressed. Aubepine might with advantage been labelled "anise aldehyde," and to include a bottle of "amanthol, the newest artificial soap-perfume," is bordering on the absurd. As a whole, this class of products, which is admittedly a difficult one to treat, has been dealt with with great care and much success.

Amongst the "essences," comprising one corner of the collection, we observed five varieties of rum-essence and three of cognac. Arrack-essence and "Irishwhiskey-essenz" were in close juxtaposition. "Scotch" did not seem to be present, the true flavour being obviously beyond the capability of imitation.

Pharmaceuticals.

"Pharmaceutical Products" fill four or five cases in the salon, and after inspecting these thoroughly one is struck by the entire absence of galenicals. The reason for this is, doubtless, the law which obtains in Germany that every apotheker who holds a pharmacy concession must have a completely fitted pharmaceutical laboratory in which to make his own galenicals, and any rare or troublesome things which he happens to buy he must be prepared to personally guarantee. It will be noted, therefore, that the large manufacturer has scarcely a look in here except in regard to chemical products and new forms of medication such as compressed tablets. The "Pharmaceutical Products" are arranged in the case therapeutically—*e.g.*, antipyretics together and astringents separate from laxatives. One case opposite the entrance contains all the best-known antipyretics, and some not so well known, such as phenocoll hydrate, thallin tartrate, and analgesin sulphate (in small orange crystals). Amongst the numerous cinchona derivatives are the light-yellow needles of ana-nitro-ortho-æthoxy-chinoline. In each of the cases are models of the principal plants in flower from which the alkaloids are obtained. For instance, the astringent-laxative-mydriatic, &c., case has *Ipomœa purga*, *Cassia acutifolia*, *Aloe socotrina*, *Podophyllum peltatum*, *Hyoscyamus niger*, *Atropa Belladonna*, *Pilocarpus Jaborandi*, *Hydrastis canadensis*, *Physostigma venenosum*, and so on. This lends much to the spectacular effect, and heightens the interest of the lay public. The astringents include five varieties of galls (Shanghai, Aleppo—white and green—Japanese, and Chinese). The more recent styptics are, of course, well represented—*e.g.*, agaricine, tanocol, hydrastine hydrochloride, stypticine, ergotinic acid, and paracotoine. The purgatives embrace jalap, crystallised mannite, the magnesias, and some fine varieties of aloes, and croton and castor-oil seeds. Erythoretin, emodin, and citrullin are amongst the newest remedies. Resin of jalap is shown in rope-like lumps with a clear black fracture near a sample of podophyllotoxin. The mydriatics and myotics include mydrine, hyoscine; the pilocarpines true eserine and true atropine. Near by are mallein, in tubes, and germ-free lymph, Koch's tuberculin (the originial a dark-coloured liquid and the new opalescent in appearance), tetanus antitoxin in yellowish granules, and Behring's diphtheria-serum. Two or three kilo. samples of such expensive chemicals as phyostigmine salicylate, pilocarpine hydrochloride, arecoline hydrobromide, and pure atropine are exhibited. The tonics, anthelmintics, hypnotics, narcotics, and anæsthetics are represented in like completeness and profusion. Amongst the flowers in this case are *Strychnos Nux vomica*, *Strophanthus hispidus*, *Gentiana lutea*, and three cinchonas—*lancifolia*, *Ledgeriana*, and *cordifolia*. There are also the coca, colchicum, tobacco, digitalis, tea, and male-fern plants, *Sterculia acuminata*, *Artemisia maritima*, and *Valeriana officinalis*. The diuretics and cardiac medicines are represented by broom tops and twigs, digitalis leaves and seeds, and tea-dust. The preparations include diuretin, true theobromine (a 7-lb. jar full), and the synthetic variety, caffeine and salts, terpene hydrate in long thick crystals, absinthin, convallarin, adonidin, and coronillin. In the tonic and bitters section quinine and its salts are prominent, as well as a strychnine group; but we also discovered cuprohæmol, orexin salicylate, and two products with playfully ponderous titles, such as formylorthonitrobenzylanilin, which are intermediary products of orexin. Apolysin, triphenin, euchanine, and quinine di-hydrobromide in yellowish crystals are to be found among the antineuralgics, and isatropylcocaine, nirvanine, and bromipine amongst the anæsthetics.

The intelligent reader of advertisements and text-books will observe that the truly scientific and the honestly proprietary are, under the altruistic ideal, placed exactly on the same plane.

Opium is represented by good specimens of Persian, Indian, and Smyrna. Beside them are some poppy-heads, which help to show the method of incising and the instruments used for the purpose. The inevitable sample of sophisticated opium has not been forgotten. Besides 7-lb. jars of the morphine salts, such derivatives as dionine, peronine, and heroine keep company with a 2-lb. sample of natural codeine in large crystals. Were one to measure the size of e opium-alkaloid industry by the size of the specimens, one ould conclude that Britain is nowhere beside Germany in e production of morphine, whereas exactly the opposite is e case. But "the immense" appears to be the key-note of e pharmaceutical portion of the exhibit.

Thus we find about 4 lbs. of cantharidin in crystals and 1 lb. f physostigmine salicylate, while such varied things as etronal, embelic acid (in reddish-orange flakes), hypnone nd acetal pelletierine sulphate and tannate, cephaëline ydrochloride, pure laudanin and laudinosin, and the qually rare opium derivatives cryptopine, tritopine, and rotopine are shown in fair quantity.

Pigments are represented by about four hundred specimens. ltramarine of every shade is, of course, a feature, and two mall cases contain artists' colours in tubes, with specimens f the art produced by their aid. A small case behind the oal-tar stand is filled with products obtained from the disillation of wood—vinegar, acetic acid, creosote, guaiacol, lcohol, chloroform, and formaldehyde—the deadly monoony of the trio- and hexa-methylenetetramines being again elieved, this time by more or less picturesque bundles of wood nd charcoal. It is really marvellous how well the organisers f the collective exhibit succeed now and then in getting own to the prosaic, but there is subtlety in it all, for who ould not be arrested in a headlong flight through this rtistic and scientific Court by the humble bundle of wood? Even the soulless, smileless pharmacist has his interest awakened, especially when he comes to the case labelled "Dietetics," and finds there such nice confections as compressed tablets, pills, and capsules (all of more liberal bulk than Britons are accustomed to), and toothsome dainties like the two sennas and the twin ipecacs., quassia and digitalis, sassafras and sarsaparilla, three kinds of China rhubarb (in tiny squares), quillaia and condurango, antipyrin "tablettes," like small sal-prunella balls, ichthalbin tablets, and vaginal tampons.

Dietetics.

It is positively refreshing to discover this niche of humour in the sober excellence of the scientific acumen of the German Empire, for who else but one of ponderous wit would have dreamt to ticket these things "Dietetics"?

Passing on we get to some of the old order and the new devoted to physiological and scientific chemical-preparations, which have a section to themselves. Such bodies as beryl and zirconium nitrates, precipitated tungstate of calcium (with which Edison was to out-Röntgen Röntgen, but did not), erbium oxide, yttrium, and ytterbium nitrates, crystallised barium platinocyanide, and other fluorescent substances for radiography. There is also here a collection of sixty-three elements, which is likely to become historic, for there never has been, as far as we are aware, so many brought together in an international exhibition. The examples of salts of rare metals are not better than those exhibited by French houses; so also when we came to the alkalies and acids exhibit we find it far behind the British, no dispraise to Germany on that account, for twenty years ago they bought all these goods from us and made practically none; now they export some. The earthy metals and their compounds are well represented; so are phosphorus and sulphur, as well as the liquefied CO_2 industry. Amongst the physiological specimens were neucleothyminic acid, elastin and skatol, hetero-albuminose neurin, biliverdin (a greenish liquid), chitin (in white flakes), taurin, and guanidin.

The Electro-chemical Section is attractively arranged, bars f aluminium being interspersed with ½-kilo. lumps of erro-titanium (20 to 25 per cent. titanium), which resembles ulled silver and has pretty iridescent tints. In the centre s an 8-kilo. ingot of pure chromium and half-a-dozen ingots f pure manganese.

Antiseptics.

Again we come to an example of the vagaries of classification, for among the first things to be seen in the corner set apart for "antiseptics, ntiluetics, dermatics," are five large glass dishes of metallic ismuth in slabs and lumps. Not far from this are two jars of iam benzoin. In short, one finds in this section a delightul mixture of the natural, the synthetic, and the nostrum, he last giving indications of outrunning the others. We do ot say so disparagingly, but rather as an indication of the idely different latitudes reached by German chemical cience; and, as elsewhere remarked, a strict line of classifiation breaks down in practice.

GREECE.

In the Grecian pavilion pharmacy is represented by M. Krinos, Athens, who has a very complete exhibition of pharmaceutical preparations, besides a sumptuous display of perfumery, soaps, and toilet articles.

HOLLAND.

Pharmacy is not directly represented in this section, the nearest approach being an exhibit of essences and fruit-extracts by Polak & Schwarz (Zaandam). Ketjen & Co. (Amsterdam) have samples of heavy chemicals of their manufacture. A good show is made by Jan Dekker (Wormerveer), the largest soap-maker in Holland. He exhibits soft soaps made from linseed oil, hemp oil, olive oil, cotton-seed oil, suet, and oleine, these being of various colours and some "figged." Carbonate of soda in silky crystals is a speciality of this house. Cases of soap packed for export are shown and samples of sebacic acid. The Royal Manufactory of Candles (Amsterdam) have an excellent show of stearine candles, and gelatin is exhibited by Frowein & Co. (Delft). We noticed here an exhibit of cardboard made from peat, which the inventor (Scholten, Groningen) says is destined to replace straw and wood cardboard. Varnishes and inks are shown by one firm—Lorilleux & Co. (Bennekom).

ITALY.

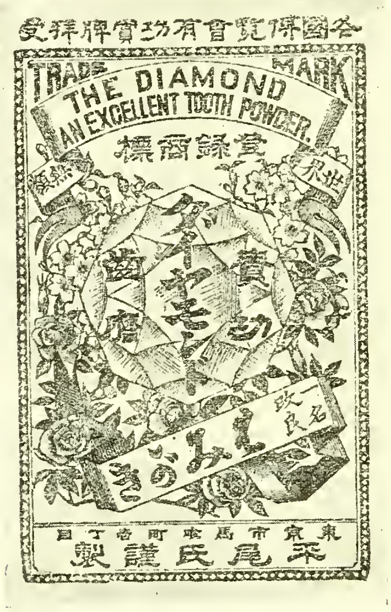
The Italian Section of Chemistry and Pharmacy is situated on the side of the Champ de Mars building, bordering on the Avenue de Suffren. In the centre of the small court is a Florentine fabrication in enamelled stone, with painted frescoes, for the exhibition of the aniline productions of Dr. Romer, of Florence. Behind this Carlo Erba, of Milan, has a case containing some fine chemical crystals. The initials of the firm are worked out in potash crystals (white), in sulphate of iron crystals (green), and in pink (manganese). There are also good specimens of castor oil, almond oil, butyric and lactic acids, and a collection of mercurials, boric acid, antifebrin, and so forth. The lactates seem to be a speciality of Mr. Erba; he shows the barium, manganese, zinc, and other salts—all being nicely produced, zinc especially so, in crystalline cakes. Besides these there are many finished pharmaceutical preparations, including tar capsules and perles of terebene, sandalwood, and copaiba. Sclopis & Co., of Turin, show pyrites and other minerals, and such products as sulphuric, nitric, and hydrochloric acids. Collotta, Cis & Gigli, of Brenzone, show magnesite and dolomite, with magnesia salts prepared from them. The firm put up a fluid magnesia in Hunyadi style, and call it "Dolomina." G. Candiars & Co. show various salts of bismuth and mercurials, besides beautiful specimens of rock alum. Dufour Frères, of Genoa, have salts of quinine put up in bottles something like Howards' 1-oz. bottles. They also exhibit mannite, ipecacuanha extract, and quebracho extract, the last apparently for tanning.

Oils (principally olive) and soaps bulk largely in this section. A very good show of this description is made by the Société Nouvelles des Huileries et Savonneries Meridionales, of Marseilles, Bari, and Utrera. Olive oils, guaranteed free from sulphuric acid, and purified or decolorised, are shown in much profusion, as well as pure olive soap. "Meridion" laundry-soap and "family soap," stamped in English on the bars, we also noted. A similar exhibit is made by Felix Genevois et Fils, of Naples. Castile soap —white, blue, green, and red mottled—is shown also by E. Conti & Son, of Livorno. Fats and machinery-oils are exhibited by E. Reinach, of Milan, and by E. Foltzer, of Meine. Cesare Pegna & Figli, of Florence, have an exhibit consisting of tubes of compressed carbonic-acid gas, taken from natural wells. This is smartly got up, and has, with its other attractions, photographs of the works and samples of the solidified gas. C. Lorilleaux & Co., of Milan, show aniline colours in tubes, as well as bottles and packets. There are several exhibits of liquorice-juice, one by B. Varracco, of Naples, and another by Cattanzara & Son, of Imcrisé.

JAPAN.

The Chemical Arts and Pharmacy Section of Japan is small, but of great interest. Much of the space is taken up with exhibits of Japanese paper, a curious circumstance about these samples being that they are labelled in English, owing, probably, to the fact that Great Britain and the United States are Japan's largest customers.

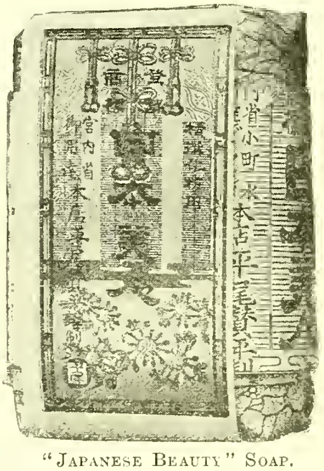
The most important place in the pharmaceutical portion is taken by two stands in which Formosa camphor is displayed. In one case flowers of camphor are shown, and in the other block camphor. It is interesting to note that there is no Japanese camphor shown, except it be labelled Formosan. The details about the camphor-concession and the introduction of Japanese methods of distilling camphor are fresh in the minds of readers of the *C. & D.*



Heroa's "Diamond" Tooth-powder.

A large number of samples of rape-seed oil are shown, the chief exhibitor being Settsu Seiyu Kabushiki Kaisha, of Osaka. The oil is rather darker than European rape oil, and is, we believe, yielded by *Brassica sinensis*, the European variety being obtained from *B. campestris* and allied species.

Komachi Water.



"Japanese Beauty" Soap.

Japanese galls, as shown here, are produced on *Rhus serrulata*, one of the sumacs, and are distinguished by their irregular shape. Galls are an important article of export from Japan. Peppermint oil and cassia oil (kuromoji) are also shown, but we did not notice any samples of menthol. Lac and sulphur are also exhibited, the lac being in small grains (seed-lac) and in square packages. Near by is a bottle of photographic varnish.

Sampei Heroa, Tokio, exhibits dentifrices and toilet-waters. We figure the style of packages. The "Diamond" dentifrice is put up in packets, pots, and bottles, and, according to a quaint price-list, is patronised "by all the ladies and gentlemen moving in the highest spheres of society" in Japan. The bottle shown in the illustration is Komachi water, a toilet-water recommended for soothing the skin and for applying before using toilet-powders. The third illustration shows a cake of "Japanese Beauty" soap, which is perfumed with Japanese musk. This enterprising manufacturer wants to extend the sale of his goods to Europe, and for that purpose has published an English price-list.

The bottles containing samples of drugs in this exhibit were capped with gold fabric and tied with elaborate ribbon, and the whole exhibit is very creditable.

It is interesting to note the rapid growth of the exports of manufactured goods from Japan. In 1888 the exports amounted to 471,000,000f., whilst last year they were 950.000,000f. The Japanese have a most extraordinary faculty for adapting themselves to Western methods, and a marvellous power of imitation which often borders on forgery.

MEXICO.

In the Rue des Nations Pavilion is an exhibit of dried medicinal plants and pharmaceuticals by the Instititio Medico Nacional. Most of the products are labelled in English as well as other languages. The medicinal herbs are mostly native, such as *Solanum mitlense*, *Tecoma stans*, *Euphorbia prostata*, *Buddleia americana*, *Ipomœa bracteata*, *Commelina pallida*, *Crygeron officinalis*, *Chenopodium fœtidum*, *Taxodium unicronatum*, *Croton dioicus*, *Arbutus serratifolia*, *Brickelia Cavanillensi*, *Artemisia mexicana*, *Schinus molle*, *Argemone mexicana*, *Arctostaphylos pungens*, *Hedeoma Piperita*. The tinctures, lozenges, capsules, and pills all bear evidence of good craftsmanship, and the specialities include Yerba de St. Nicolas. The "Emulsion del Dr. Ibancz" shown in the gallery is cod-liver oil with hypophosphites, and "Depuratio Tarasco" is a blood-mixture. In the same case as the latter cascara-sagrada cordial finds a place. The Botica droguerea de A. Mier is an ordinary exhibit of pharmaceutical specialities. Other Mexican proprietaries exhibited are Crema de Damiano, Elixir de Nogæ (diarrhœa-mixture), Clori Camforina (toothache-drops), Xicotl (diabetes-remedy), and Emplastica Mexicana. These may give exporters hints as to the drugs in demand in Mexico. In one show of perfumery and soaps we noticed "Agua de Florida," put up like Murray's.

NORWAY.

Albert Bernhoft, of Röst, exhibits fish-oils and the ash of *Laminaria Clousonii*, from which iodine and other chemicals are obtained. The residual product is used as manure.

Wood-paper is a feature of the section, one exhibit showing the paper in the various stages of manufacture. Lands Trœsliberi (Drammen), among wood-pulp products, shows pill-boxes and pressed cardboard dishes. The pill-boxes are cream colour.

Dr. C. Engelskjon (Christiania) shows the "Reform" manure for pot-plants. It is put up in 4-oz. tins. A solution is made of the contents of the tin and used for watering the plants once a week. The tin sells at about 9*d*. The soap shown is mottled and hard, but the latter is not attractive in colour or appearance.

The Aktieselskabet Hafslund show carbide of calcium and the lime and charcoal used in making it. The power used (23,000 horse-power) is obtained from a waterfall. The ordinary carbide is labelled as yielding a minimum of 300 litres of gas per kilo.

PERU.

This country is represented by a pavilion on the Rue des Nations, which has an irritating knack of being seldom open to the public. Once when we managed to find it open we discovered in it many specimens of barley and hops, and that it contributed to pharmacy samples of coca-leaves and guttapercha.

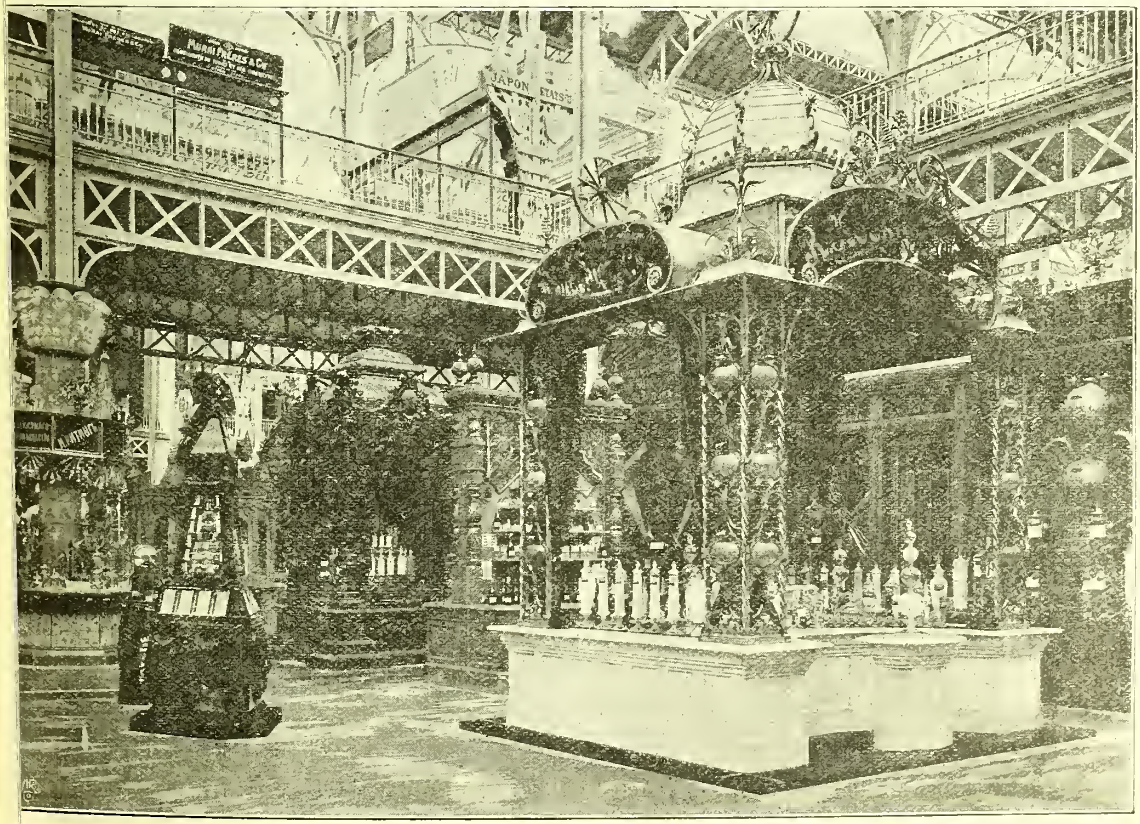
ROUMANIA.

The Institut Central de Chimie (Bucharest), a Government institution founded in 1863, shows native products collected by the Institute. These include Roumanian asphalt, ozokerite, and distillation chemicals. There is a large album of photographs of the Institute in the centre of the Roumanian section, from which it appears that the laboratories are well furnished with apparatus. There are several exhibitors of pharmaceutical objects. **Popini** (Bucharest) shows salvadent, and **Werner** (Roman) dentol and odontine, tooth-powders, and toothache-remedies. **Berlandt** (Bucharest) shows urisolvin (granular effervescing lithium borate), pills of iron, protobromide, and "syrop de tolu goudronée." Another tar-preparation ("Goudron-China") is shown by **Berberianu** (Constante), who also has a dentifrice which is put up in oval opal pots with white celluloid lids. **Iteanu** (Rim Sarat) has several good pharmaceuticals; hemofer (hemoglobin with glycerophosphate of iron) is the chief one. He shows also bottles of gilded pills of peptonate of iron. Ovules of glycerin of the size and shape exhibited in the French section are displayed, along with capsules of a combination of sandalwood oil with salol. Some lozenges exhibited have the name of the contents on one side and the pharmacist's trade-mark on the other. There are also collapsible tubes of vaseline, cold cream, and sterilised borated vaseline. The labelling on all these preparations is second rate. **Gregoriade** (Berlad) has a case of small samples of drugs and chemicals of his own collection or preparation, and shows as well a dentifrice put up in oval boxes. **Altan** (Bucharest), amongst pharmaceutical products, shows some compressed ablets of rhubarb and soda, not very well finished, however, nd fluid extracts of coca (containing 0·228 per cent. lkaloid), kola (1·669 per cent.), and hydrastis (with 2·4205 per cent. hydrastine). The "**Stella**" **Soapworks** (Bucharest) exhibit some fancy soaps, nicely boxed, but not superior n "get up" to English goods. One firm only—**Frères George Assan** (Bucharest)—exhibit varnishes and oils. The black varnish is put up in tins, the mouths of which are lled with plaster of Paris.

In the pavilion in the Rue des Nations there are shown a eries of salt-mine products by the **Institut Central de Chimie du Ministère de l'Intérieur**. An attempt is made to arrange the blocks of rock salt artistically. We also picked out here samples of the Roumanian mineral waters, Dorna, Monteor-sarata, and Breazu.

RUSSIA

Side by side with Germany, and opposite Great Britain, Russia bids fair for a share of popular appreciation. The Court has a Kremlin appearance about it on account of the construction of the stands. The best exhibit pharmaceutically is that of **R. Kochler & Co.**, of Moscow. It is seen on the right-hand side of the illustration. It is constructed of white marble and wrought metal. In the semicircular recess in front stands a white-marble table, on which is a globe show-jar divided into four sections, which contain protonitrate, red oxide, perchloride, and biniodide of mercury. Behind are arrayed a number of essential oils, including nerolin and aubepine, and a series of well-made plasters in glass jars. Behind these, again, are another row of chemicals and surgical dressings and a quantity of crude and pure sulphuric acid. In the centre of a line of medicated wools is a fancy show-jar with chloride of gold wrapped in cartons. Liquid extracts are likewise well represented, and a long line of compressed tablets testify to the fact that Russian pharmacy is up-to-date. The chemicals compare favourably in appearance with the productions of the best continental and British houses. The decoration on the top of the exhibit (wings on a wheel) seems to be the trade-mark of the firm. The triangular case showing the productions from the chemical laboratory of Dr. Poehl, St. Petersburg, contains, of course, the now notorious "Spermin," as well as other organo-therapeutic agents, chiefly in tablet-form. **M. Tenteleva**, of St. Petersburg, has an exhibit of chemical products and platinum apparatus. Great prominence is given to iridium, palladium, collodion, fluoric acid, ethers, bichromates, tannic acid, superphosphates and sulphate of soda. A fine exhibit in solid oak by **Lubinoff, Solvay & Co.**, of Moscow, is devoted to ammonio-soda products, this being one of the firms in different parts of the world which works the Solvay patents; while another by **Dr. G. Leverkus & Son**, of Riga, shows ultramarine colours. The **Muscovite Society of Colour and Varnish Manufacturers** exhibit their



Russian Pharmacy Section.

products, and the Société de Lowitsch—a Russian-Polish firm—show mineral earths and chemical manures. A St. Petersburg firm, who make a speciality of bone-black and other bone-products, produce an engaging exhibit out of unlikely material. Next to it a fine, solid, unpolished oak wall-case is used for a combined exhibit by Broemme Frères, St. Petersburg (essential oils and aniline colours), A. Neverova (crystals of prussiate of potash in the form of mortar and pestle), D. Bajanoff & J. Lipinsky, of Baku (coal-tar manufacture), and Richter & Co, of Ousman (distilled oils). In the last are oils of dill, caraway, absinth, thyme, and four kinds of aniseed, besides anethol in fine crystals. The case adjoining is also a combination, two of the four exhibitors being pharmaceutical. The first (Keunemann, Baudet & Co.) show "flower extracts"—laque de Cuba (a yellow extract), laque de grains de Perse, laque de quercitron—besides orcine (crystal) and hæmatine, all in artistic jars. The other—the Société Russe Fabrique de Produits Chimiques—deal in charcoal, asphalt, tar, benzol, lysol, sanatol, and nitro-benzene. Lubienski & Co., Adeline (Government of Moyhleff), have a haphazard assortment of products from the destructive distillation of wood. On the side opposite the British Chemical Section a good exhibit of mineral oils, fats, glycerin, and other fatty products is made by A. M. Shukoff, of St. Petersburg. In the alcoves on each side of the arch which forms the entrance to this side of the Russian Section M. Shukoff has placed large carboys of glycerin and bundles of candles, besides many specimens of mineral and vegetable oils, paraffins, oleic acid, and Castile soap in blue mottled bars. Stearin (from cod-liver oil), stearates, and oleates likewise find place, and some good samples of castor oil. Wool-fats are shown by E. M. Petrenko, of Kharkoff, as well as a toilet "lanoline" soap, which is nicely put up in leatherette cases, coloured dark-red with gold edges. An exhibit of medicinal cachets, with the labels in German, is made by A. A. Richter, of Krukovo, and another of the same character by F. Solecki, of Warsaw, shows nicely-finished cachets. A beautiful stand with green-plush draperies is used to display the petroleum products of Nobel Frères, St. Petersburg.

SERVIA.

In the Servian pavilion a good varnish-exhibit is made by D. M. Djoritch, of Belgrade, but mining-specimens predominate, and include antimony, iron, chrome, zinc, copper, lead, and argentiferous ores, as well as gold quartz.

SPAIN.

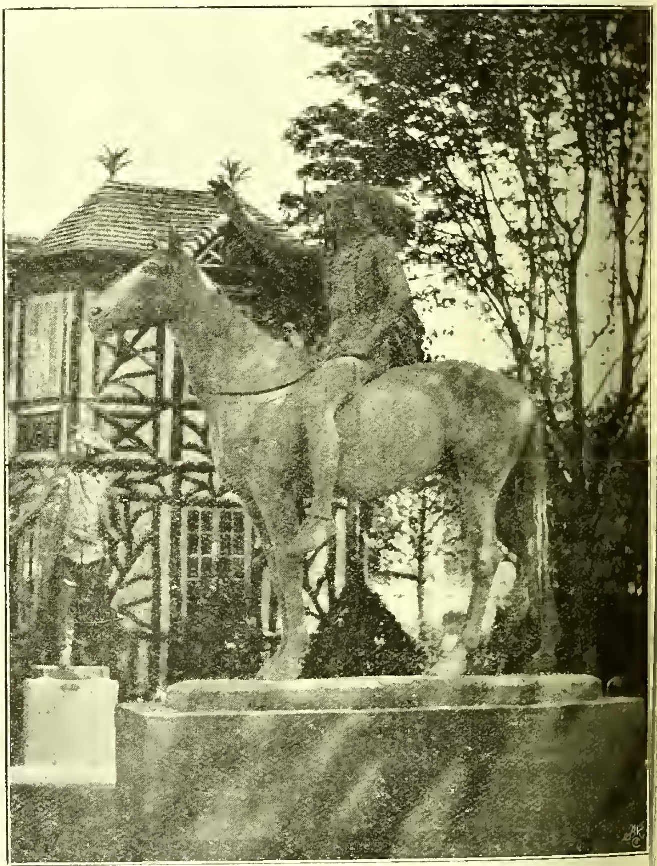
Dr. Trigo (Valencia) exhibits effervescing citrate of magnesia and an emulsion of cod-liver oil with hypophosphites, which bears a resemblance to Scott's emulsion in the style of packing. Dominguez (Gracia) has a skin-lotion, in round opaque bottles, with labels in blue and gold. Dr. Piza (Barcelona) shows capsules, and Casals (Barcelona) an antiseptic liquid dentifrice of a red colour. Two firms show medicated wines. Amargos (Barcelona) has a variety among which figure tonic and bitter wines. "Vino de Ostras," shown by Drs. Sastre & Marqués, is a compound of quinine, coca, and kola. One exhibitor (Felipe Guasch) shows compressed tablets. These are not so well finished as English ones. They are packed in tins and oval bottles, but there is in each package a quantity of the drug which has chipped off the edges of the tablets. There are two soap exhibits, one being a green mottled soap. Macian (Madrid) has a hair-dye, without silver, packed in oval cases. Another proprietary we noticed was "Pomade de Fuego," a veterinary resolvent.

TURKEY.

Neither opium nor otto of rose is exhibited in the Turkish pavilion, but there are plenty of mineral earths such as elaterite, silicated calcium, and asphalt, and an inordinate number of rat-traps and mice-killers. There seems to be a field for enterprise in the mice-poison line in Turkey. Baldo (Constantinople) has a small exhibit of pharmaceutical products. One important item is "Ext. fluid de quinqua sans alcohol." It is put up in 3-oz. flats and sealed with green wax. It is necessary that pharmaceutical preparations for Turkish trade should be free from alcohol, as that menstruum is strictly forbidden by the Koran to be taken by the faithful.

UNITED STATES.

The Chemical Arts and Pharmacy Section of the United States is comparatively small; but the organisers have made up for that by having smart attendants always there, ready to give visitors any information about the products there shown.



The Medicine-man. Cyrus E. Dallin, Sculptor.

Messrs. W. R. Warner & Co., Philadelphia, make an imposing show of pharmaceutical products. The exhibit is arranged in tier-form, the top shelves crowned by huge vases of quinine, pills, and jars of calisaya elixir. The othe shelves hold samples of the special lines of this firm. Sugar coated pills bulk largely, and are noticeable from the variety of colours in which they appear—all shades of red, blu yellow, green being represented, in addition to black an white coating. The contents of the pills are, of cours more varied than the coatings. We noticed several kind that are well known in Great Britain, such as No. 120, "pi cathartic and liver," of which many tons are made in a yea Granular preparations are represented by "bromo-soda "kissingen," and "soda phosphate." Hypophosphite syru and "tono sumbul" are here in large show-vases.

Heavy chemicals are shown by the Thomsen Chemica Company, Baltimore, who exhibit lime, copper, iron, ar soda salts. A special line appears to be phosphate soda in granules, in cardboard packages, of a pound each.

Messrs. Queen & Co., Philadelphia, show "bauxogen, newly-discovered amorphous aluminate." Bauxogen, learn, was discovered by Dr. Ernst Fahrig, chief of t laboratories of the Philadelphia Commercial Museum, 1898. It is soluble in water, absorbs ozone, bromine, a chlorine, and combines with copper and chromium. It does not appear to have been turned to any commercial advantage as yet.

The **STANDARD OIL COMPANY** occupy a large space, which is devoted to a museum of specimens of petroleums, oil-bearing rocks, and paraffin products. One portion contains about 150 specimens of hydrocarbons, obtained from the crude petroleum of various countries, got together by Professor C. F. Mafery, Cleveland. These include such rareties as chloroctoriaphtene ($C_8H_{15}Cl$), and the hepta and nona derivatives, only found in some specimens of Californian petroleums. We noticed also Decane dichloride ($C_{10}H_{20}Cl_2$), which is peculiar to Pennsylvania petroleum.

Messrs. **SEABURY & JOHNSON**, New York, have an exhibit, and are represented by Mr. Smith, of Fassett & Johnson (London), who was making things smart for the visit of the jury of awards. Most of the goods shown are familiar to chemists. The belladonna-plaster is specially labelled that it conforms to the British Pharmacopœia standard. Kidney and rheumatic plasters are good lines, and there is a long list of antiseptic dressings in airtight containers. Moist gauze in bottles is shown, as well as five qualities of dry gauze. The cuspidors for phthisical patients are not new, but have lately increased in sale owing to the attention given to the infectiousness of tuberculosis.

The American proprietaries shown include Williams's shaving-soap, antikamnia tablets, the Coke dandruff-cure of Brewer & Co., listerine, shown by **LAMBERT** (St. Louis), Kutnow's powder, and sen-sen. Glycozone, hydrozone, and Marchand's eye-balsam are displayed by Mr. C. **MARCHAND**, who has taken care to have a booklet printed in French to describe the virtues of his exhibits. Mr. **PAUL RIEGER** (San Francisco) shows Californian perfumes, cream of lemons, and Mrs. Webb's medicated healing-soap.

Oils and greases are exhibited by the **VACUUM OIL COMPANY**, whose lubricants are used for oiling the platformemobile. Varnish is shown by Messrs. **VALENTINE & CO.**, put up in square tins. Le Page's glue and mucilage are also exhibited.

The **H. & G. HOTCHKISS INTERNATIONAL PRIZE-MEDAL ESSENTIAL OIL COMPANY**, Lyons, New York, display the essential oils for which they are so well known—*e.g.*, peppermint and spearmint.

American perfumery is well represented by Messrs. **COLGATE & CO.**, New York, who show perfumes put up in fine style. Violet toilet-water is a recent introduction, and we picked out a nicely-got-up shaving-soap in round cases. The Cashmere bouquet and soap are there.

CUBA.

M. J. **MARQUEZ**, of Havanna, shows an emulsion which "he invented in 1830 and perfected in 1840." It appears to be the usual cod-liver oil and hypophosphites emulsion, put up in 4-oz. wide-mouthed bottles with gilt metal caps. Quinine-wine, anti-dyspeptic cream, "Licor Balsamica" (evidently a cough-mixture), glycerophosphates and pepsin-wine, bromide of potassium, and various other pharmaceutical specialities are nicely exhibited by F. J. **BARRINET**, of Cardenas, Cuba; while **ROBEATO & BEGUIRISGAIN**, of Sagua la Grande, have a spirit show. It is a corner stand, and consists simply of about fifty gallons of alcohol in 1-gallon glass bottles; "El Inferno" is the brand.

ODDS AND ENDS.

It may be appropriate to mention here, as there is a small corner to fill, that there is ample provision throughout the Exposition for providing medical assistance for those who are taken suddenly ill while visiting the Exposition. The best plan for anyone who is seized is to get into a Bath chair (of which there are many about) and ask the chairman to wheel to the nearest Depôt Medical.

There is ample refreshment-provision throughout the Exposition, restaurants being all over the grounds and in many of the buildings, as well as in some of the palaces on the Rue des Nations. Prices suit all purses, but visitors may find it an advantage to look for an indication of prices before entering. Slaters, of London, have a restaurant in the grounds, not far from the Eiffel Tower. Many wend their way to the Ceylon Palace in the Trocadero grounds, where an excellent cup of tea can be had in the open.

SUNDRIES & SURGICAL.

GREAT BRITAIN.

The exhibitors of surgical instruments in the British section are Messrs. **DOWN BROTHERS**, **PEARSALL & CO.**, and **HAYES & CO.** (Stockport). Messrs. Pearsall & Co.'s exhibit is of silk ligatures for surgical use. Messrs. Hayes & Co. show bandages, whilst Messrs. Down Brothers have quite a large exhibit of a fitted-up operating-room. The tiling of this room is the work of another firm (W. B. **SIMPSON & SONS**). The walls are of dull-tinted tiles, and the corners are filled with curved tiles so that no dust or germs can collect. The floor is paved with mosaic rubbed down to a smooth surface. The furniture is aseptic, the frame of the operating-table being metal, enamelled white. An instrument-table shown has a nickelled frame, and we noticed that the glass shelves with which it is fitted were cornerless; the table is fitted with roller-castors. The operating-table is also provided with roller-castors, but here there is a contrivance for throwing the castors out of action, so as to obtain a firm table. There are many nice ideas in surgical sundries shown here, such as an ice-cup of glass, which has a strainer near the bottom, on which the ice rests, so that water can be easily drained away. The solution-bowls are of different colours, so that the contained solution may be readily recognised, blue being the colour for sublimate solution, red for boric acid, and so on. The ligatures are also, we noticed, stained different colours for the purpose of distinguishing the various kinds.

AUSTRIA.

In the Surgical Instrument Section **FRITSCH** (Vienna) shows ophthalmoscopes, **ODELGA** (Vienna) trusses, and **LEITER & REINER** surgical instruments.

BELGIUM.

The **COMPAGNIE CONTINENTALE DES VEILLEUSES ANTISEPTIQUES** (Système Glenister), Brussels, have a nice show of "Sovereign bronchial nightlights" for use in affections of the respiratory organs, bronchitis, catarrh, croup, whooping-cough, and such diseases. The nightlight is like the ordinary "non-bronchial" product, and "is sold in all pharmacies at the net price of 1.50f."

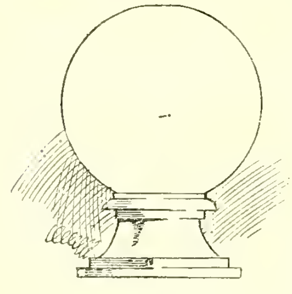
DENMARK.

The only exhibit in this section is one by **BANG & TEQUER** (Copenhagen) of surgical dressings. Sterile bandages, each wrapped in vegetable parchment, are shown, as well as the dressings for use on the Danish railways. Sphaigne, an absorbent powder for poultices, looks like linseed-meal. A family emergency case is exhibited, which contains the articles needed for treating accidents pending the arrival of a doctor. It contains several kinds of bandages, and such things as phenol solution, ether, and safety pins.

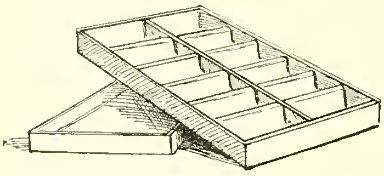
FRANCE.

Medicine-chests are exhibited by MM. **BELIÈRES, DUFFOURE ET NOEL**, M. **CHANTEAUD** (Paris), and M. **BAUDART**. These are called pocket or family "pharmacies," according to size. M. Chanteaud's are fitted with dosimetric granules. The bottles in M. Baudart's chests have burnt-in labels, and an idea common to all is the use of I.R. caps for the stoppers of the bottles, which must be much handier to the users than having to untie a leather or cloth cap. M. Baudart has hit on the idea of making penholders and pencils of quassia-wood to cure persons who have contracted the habit of biting their writing implements.

Among novelties in druggists' scales may be noted a weighing-apparatus shown by M. Kugelstadt in the Instruments of Precision Section. The apparatus has no weights, but is a combination of the steelyard principle and box-scales. The apparatus consists of a square box on the top of which the scale-pan is poised. By moving a sliding weight along a bar in the front, material placed on the scale-pan is weighed. M. Collett in the Pharmacy Section shows a pair of dispensing-scales to which a telescope is fixed for reading the scale, a principle hitherto only applied to analytical scales.


French Show-carboy.

The display of MM. Benois et Cie. may be taken as characteristic. There are several items of druggists' sundries shown which vary from what we are accustomed to. Douches are in many patterns, the containers being often highly ornamental and hand-painted. French show-carboys differ from those used in Great Britain, and are plain glass globes, filled from the bottom, the surfaces often being faceted all over. Other items are a menthol-inhaler (in appearance like a cigar) and a paste-pot of neat appearance. This is composed of an inner pot and an outer nickel vessel, across the top of which a metal strip is left for wiping excess of paste from the brush. Amongst the druggists' boxes there is a useful tin one for suppositories, with a division for each suppository. Slide powder-boxes are here shown covered with fancy paper and edged with paper of another colour; but they have not so neat an appearance as the plain enamelled white or purple boxes. Filter-papers ready pleated are shown by two or three firms. The pleating is done by machinery, and more perfectly than it can be done by hand.


Suppository-box.

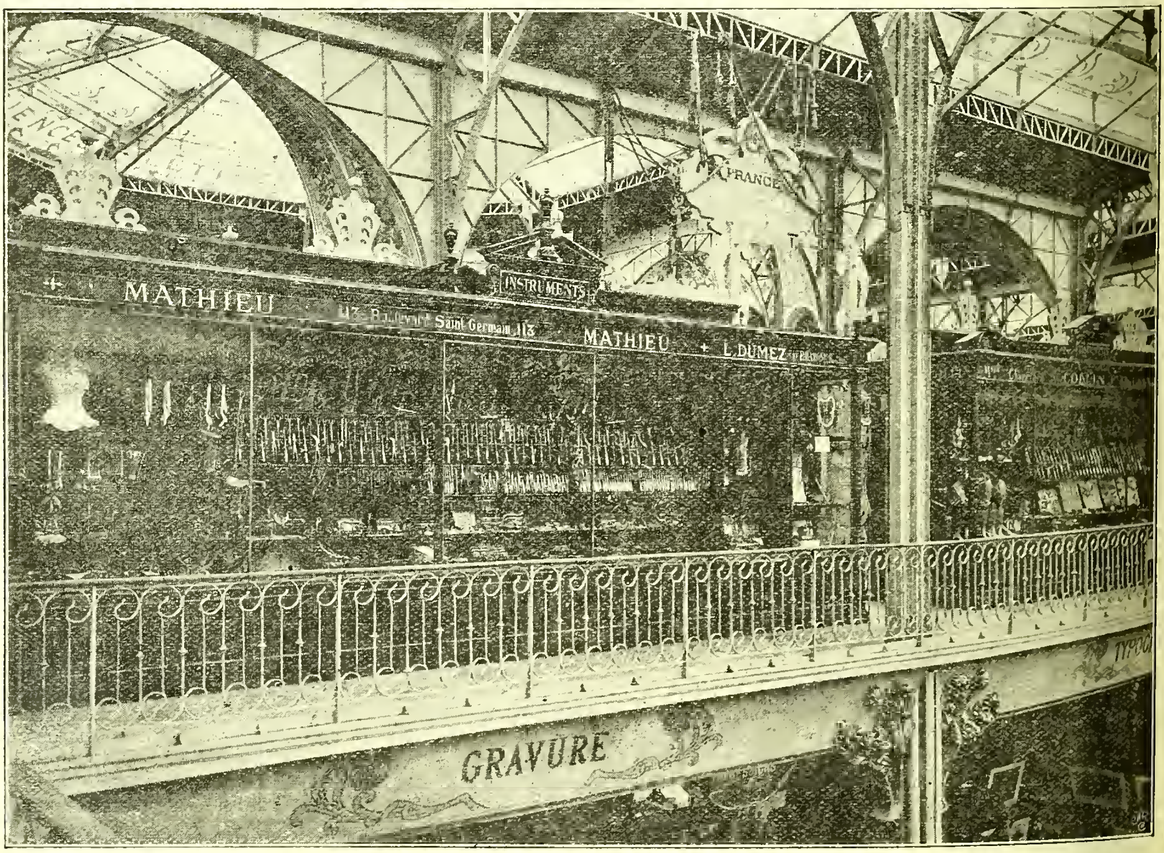
In pharmaceutical boxes M. A. Lefevre shows a face-powder box which has little jingles fastened on the side, an idea which some inventors in this country would have us apply to poison-bottles only. M. Cassard, a cardboard-box maker, shows boxes of corrugated cardboard for packing medicines. Powder, puff, and boxes are shown by MM. Haincellin et Devauze. The puff-boxes are in great variety, enamelled and white-metal ones predominating.

Among M. Leune's exhibit of chemical and pharmaceutical apparatus we noticed a retort-stand which has its base of a thick piece of opal glass, which would be a convenience in colour-volumetric work. A white-porcelain slab with a series of shallow depressions for drop reactions was another useful piece of laboratory-furniture at MM. Brewer Frères' exhibit.

M. Bocquillon-Limousin's exhibit makes a speciality of apparatus for making oxygen, from small glass flat-bottomed retorts to polished-steel retorts. These latter are arranged so that the upper and lower part can be clamped together after putting in the potassium chlorate and manganese dioxide. There is also shown a compact little test-case for estimating sugar.

In the exhibits of glassware in the buildings on the left side of the Esplanade des Invalides MM. Legras have a good display of pharmaceutical glass. There are here pear-shaped carboys with the surface polished all over into facets. Wick and rush covered bottles for olive oil and Eau-de-Cologne are in many varieties.

Label-printers are represented by MM. Mounier, Jean-



French Surgical-instruments Section.

bin et Cie., a feature being shop-bottle labels. These labels are more ornamentally and fancifully treated than similar labels are in this country.

Most of the indiarubber exhibits are placed in the gallery of the palace on the left of the Esplanade des Invalides, at the Invalides end—there are some, however, in the French Pharmacy Section. At the top of one of the staircases there is a caoutchouc carpet which is delightfully soft and pleasant to walk on. M. Grellon has a large show of ebonite and guttapercha goods. These include acid-pumps, ebonite buckets, fluoric-acid bottles, as well as enemas and I.R. gloves. The Société Industrielle des Téléphones have a similar exhibit, but here an acid-pump is shown made of red ebonite.

In I.R. hot-water bags we noticed a pattern which has the mouth of the bag in the corner, and is without handles. MM. Bapst & Hamet show I.R. covers for w.c. seats which can be quickly taken off and cleaned. M. Laurent makes a show of rubber animals and figures to blow up. The "Dying Boer" with which we are familiar in the streets of London at the present time is there, only it has a different name. M. Schoenfeld's exhibit includes the "Alpha" enema syringe, feeding-bottle teats, and I.R. toothbrushes. MM. Bognier & Burnet, whose exhibit is in the Chemical-industry Section have, amongst a variety of I.R. goods, an ice-cap made of I.R. tubing, through which cold water can be circulated. They also show a model of a chair padded with I.R. cushions, for invalids' use. Red is apparently the favourite colour for French rubber goods. This firm have also I.R. hot-water bags on show; one has an elaborate cover of velvet plaited with ribbon. The Silvertown Telegraph Works Company are exhibiting among the French, from their Paris depôt. There are several pieces of hard-rubber apparatus for the use of chemical-works and some well-made taps attracted our attention. Strainers in hard rubber are shown by MM. Falconnet, Perodeaud et Cie., in addition to acid pumps and buckets.

Vve. A. Fayaud, Fils et Gendre (Paris) have a large machine at work, showing how cotton-elastic bandages and similar goods are woven. Mouilbau & Chevreau (Paris) display waterproof bibs, rubber rings for feeders, sponge-bags, finger-stalls, and all the other rubber paraphernalia usually met with in a pharmacy. They also exhibit the model of a machine for making elastic hosiery.

There are two exhibits of fabrics for use in the chemical-industries such as horsehair cloth and the material for making filter-bags and filter-buckets.

Brushes. Brushes are also in the gallery of the building on the left of the Esplanade des Invalides. French toothbrushes are made with more fanciful handles than those in use in Great Britain. The handles of toothbrushes are in some cases decorated with mother-of-pearl ornaments, and shaving-brushes are shown with transparent horn handles, and occasionally adorned with glass jewels.

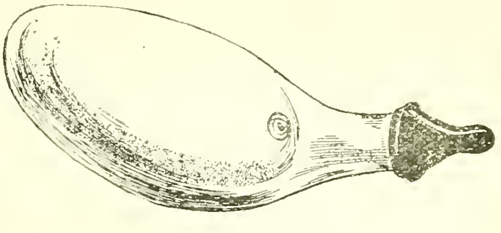
MM. Dupont et Cie. send out toothbrushes in paper wrappers, so that customers cannot soil the brush by drawing their finger over the bristles to judge of the hardness. The cover does not conceal the bristles, it only protects them from being soiled. M. Ailliot has an attractive line in shaving-brushes; the handles are of ornamented metal, and a soap-bowl of the same design goes with the brush.

M. Loonen furnishes a line in bristle wood-backed handled nail-brushes that have extra large handles. This should be handy for use, as the handles with which so many nail-brushes are furnished are too small and difficult to grip when the hands are wet.

In hair-brushes and combs we were not able to find any designs which differed much from those obtainable in Great Britain.

Flesh-gloves are a speciality of M. Reinier, who shows in the Esplanade des Invalides building amongst the brush-exhibits. The flesh-gloves are almost invariably furnished with thumb-pieces, and include hair gloves for increasing the circulation of the blood, and an electric hair glove which seems to be furnished with metallic electroids.

The illustration shows the type of feeding-bottle in use in France. The biberon-Roberts is a pattern not unknown in Great Britain; two millions of this particular bottle are said by the maker to be sold each year. It will be noticed that there is an air-valve on the front of the bottle.



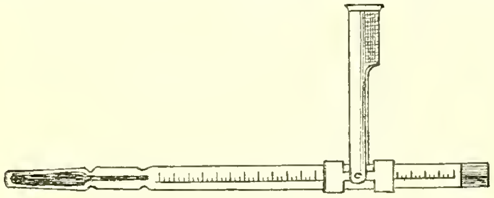
A French Feeder.

Sterilisers for milk are not so much in evidence in this section as one might expect. This is perhaps due to the fact that there is little difficulty in obtaining sterilised milk in Paris and other French cities. We, however, noticed two or three sterilisers for milk, but none of them displayed any new features.

Vaporisers, on the other hand, are found in the cases of most of the exhibitors of surgical appliances. In a common type of this piece of apparatus, the upper part contains water which is heated to boiling by a spirit-lamp placed beneath it. The steam escapes at a minute aperture and sucks up some of the formalin solution placed in an outer glass vessel. The instrument is a capital method of disinfecting a room with formaldehyde.

We noted many perfume-sprays and toilet-bottles gorgeously decorated, but there is nothing strikingly novel. The display of Dufour et Cie., of Paris, has many massive sprays, gilt or silvered, besides toilet-boxes and a large selection of hair-brushes and combs. Perfume-bottles and pharmacy-bottles are somewhat sparsely represented, but an elegant show of both is made by P. Lefebure, Paris. The shop-bottles are well finished and the labelling nicely executed. C. Depinoix, Paris, also exhibits a fine lot of pharmacy glassware, a novelty being an egg-shaped show-carboy for the window. It is gilt-topped and has a gilt band running round the part which joins the egg to the pedestal. A display of perfume and toilet-bottles is made by C. Delbosque, of Paris.

Some new ideas in clinical thermometers are shown by M. Bloch. One of these, shown in the illustration, consists of a sliding protector for the bulb. The thermometer can afterwards be enclosed in the customary tube or carried in the pocket as it is. Some of these clinicals are fitted with a tiny microscope, which can be shifted along the tube, and so serves to magnify the scale. This is in addition to the usual prismatic tube.



Clinical with Bulb-protector.

Plasters and Dressings. M. Sabatier's space is devoted to showing Langlebert's "quataplasme," an absorbent material resembling Gamgee tissue in appearance. The quataplasme is used for poultices, and is employed in the French Navy. M. Rigollot shows his mustard-leaves, and a new preparation, "poudre Rigollot véterinaire"—a light-fawn coloured powder for rubbing animals with. At the exhibit of Bance et Cie. we noticed an umbilical plaster of a pattern we noted at the last Exhibition. The centre-piece is a button, covered with rubber and placed on a rose-shaped piece of adhesive plaster, cross-pieces of the same plaster being used to keep the whole in place. M. Jouisse has plasters impregnated with glue for surgical use; whilst at the exhibit of MM. Barbier et Longuiet there is a special packing for sterilised cotton.

The cotton is sterilised in tin containers under pressure, and sent to surgeons hermetically sealed. M. **Mulsant** has a long line of antiseptic dressings. The "Sachet de pansement au sublimé" used in the French Army is shown. The decalcified-bone drainage-tubes exhibited are green in colour, and are sent out in antiseptic solution. In the French Surgical Section Dr. **Gendron** exhibits antiseptic dressings and surgical requirements. The articles are nicely packed. Sterilised catgut is sent out wound round a glass tube, which is enclosed in another tube with a glass cap. The juncture of the cap and tube is closed with a segment of I.R. tube. The same method of packing is used for laminaria and sterile drainage-tubes

The exhibit of Dr. P. **David** contains some new dressings. We noticed pyoctanic cotton, picric-acid cotton, ferrapyrin gauze (styptic), airol gauze, and xeroform gauze. M. **Boussenot** shows all sorts of laminaria and sponge tents, which are presented in an aseptic condition. There are some sounds shown made of laminaria. Throat-swabs made of a piece of sponge on a flexible quill seem an improvement on the wire or wooden throat-swabs. M. **Saussine** has a pocket spitting-cup of aluminium resembling the kind which Mr. Martindale brought out some time back. M. **Leune** shows some earthenware boxes for holding surgical sponges, which are aseptic and easily cleaned.

Opticians' Trial-cases. Three or four exhibitors show these cases, and there are several showing artificial eyes. Some of the eyes are beautifully made, and adapted to irregularities of the surface of the eye. We noticed a pattern of artificial eye which has an edge of soft metal, the object being to bring about a gradual enlargement of the orbital cavity. At one of the optical cases there is shown a spherometer like the Geneva lens-tester, but it has an arrangement for holding the spectacle-lens in position for testing.

Surgical Instruments. The universal adoption of sterilising methods in surgery has within a few years completely altered the aspect of surgical instruments. Every instrument must now be so constructed that it affords no nidus for bacteria, and can be sterilised by boiling without injury. Knives and chisels are made in one piece, and either thickly nickelled or silver-plated. The apparatus for sterilising instruments is also much required, the demand being met by the supply of copper or nickel baths for boiling instruments in, and glass vessels for gaseous disinfection with formalin. These are shown in great variety. Enamelled ware for use in operating-theatres and for feeding-cups and bed-pans is to be found, and there are in this section two or three operating-rooms fitted up with aseptic furniture and fittings. We noticed in one exhibit that some of the instruments are gilt, and in another there is a tonsil-guillotine with gilt handles. Frequently the case in which the instruments are fitted is so constructed that it can be used for boiling the instrument in. Some cases of instruments as large as a portmanteau are constructed on this principle.

In the manufacture of anatomical models the French excel. There are four exhibitors of this class of goods in the Surgical-instrument Section. The models are most beautifully made, the smallest detail of the human body being faithfully represented. Some of the specimens, as a cut in the leg, and one showing the corroding effect of vitriol on the face and head, however, are sufficiently horrible to ensure plenty of people looking at them, on the same principle that people enter the chamber of horrors at a popular waxworks. The models are not confined to the human anatomy; flowers modelled in the same way are of great use to botany teachers. One interesting series of models shows the development of an egg into a chicken. The series comprises twenty-four models, the shell being broken away so that the interior can be seen. M. **Tramond** is showing the egg-models, and it is here we noticed human skeletons prepared with the ligatures in position. As a rule the skeletons are articulated with brass wire, but in this case flexible ligatures are fitted to represent muscles.

M. **Gasnier** shows a truss for neuralgia. The truss presses on the temples, and we were assured cures the worst headache in half an hour. M. **Petit** exhibits a massage-roller which the patient can use himself. It has the usual corrugated surface with handles at each end.

Catheters. There are some dozen exhibitors of catheters in hard and soft rubber. Most of these makers have round the edges of their business-card a catheter-gauge, which is a convenient thing for chemists and medical men. Cases for carrying a catheter in the pocket are shown by several. One we noticed was an oval case for a soft catheter, the centre being occupied by a small tin of sterilised vaseline. The same requirement is met in other cases by glass or aluminium receptacles. Dr. P. **Hamonic** has a special exhibit of urinary-surgery requirements, most of them being his own devising. An apparatus for insufflating iodine into the bladder with a catheter, spray-bellows, and vaporising-chamber seems to be a model of ingenuity. M. **Baco-Prodhomme** has a good line in suspensory bandages which are woven in white cotton and look very comfortable. At one of the exhibits in this section we noticed I.R. gloves for operating, which had the ends of the fingers of thinner rubber than the rest of the gloves, so as to preserve the operator's delicacy of touch. An ingenious development of the use of sterile hypodermic solutions is shown in one of the cases. It consists of two tubes joined by a thin piece of glass. In the larger tube sterile water is placed, whilst the smaller contains the desired quantity of the solid salt. A piece of I.R. tubing is tightly placed over the connecting-glass, so that when the joining tube is broken the water and the hypodermic salt are brought together without access of air, and a perfectly sterile and fresh solution is made available for use. The introduction of artificial serum has led to the invention of serum-bottles for administering. These have a bellows attached for forcing the solution through the hypodermic needle. The bottles used for sterilising milk are adopted by one exhibitor for storing serum and should answer very well without being very expensive.

Hypodermic syringes made entirely of glass are shown by at least two exhibitors. The piston is ground into the barrel so accurately that no packing is necessary.

The use of aluminium for pessaries is another application of that metal. The extra lightness should be advantageous for pessaries, provided the metal does not corrode.

In a corner on the lower floor of the Decorative Arts Section a small exhibit of emery-powder is made by the **Compagnie Centrale des Emeris et Produits a Poer.** The powder is put up in boxes, tins, and glass dishes.

GERMANY.

There are twenty-eight exhibitors of surgical instruments in the German section. The exhibitors have, as in other German manufactures, grouped together, but, as the number who exhibit is small, they do not make an imposing show. **Hauptner** (Berlin) makes a good exhibit of veterinary-surgical instruments. The handles of the various goods shown are frosted, so as to give a better grip to the hand. **Lautenschlaeger** (Berlin) shows sterilising-apparatus of nickelled copper. **Kratz** (Frankfort-on-the-Main) makes a speciality of surgical needles and eye-instruments; some of these are gilt. **Muller** (Wiesbaden) has a wonderful collection of reproductions of eye-diseases. **Loewenstein's** (Berlin) exhibit is of instruments for the treatment of the urinary organs. In cystoscopes, one instrument, designed by Dr. Nitze, has an arrangement for photographing in the bladder. We noticed here a box of apparatus designed by Dr. Meissner, for the use of physicians and pharmacists for diagnosing diseases which seemed to be very comprehensive. We may mention that most of the German surgical-instrument catalogues are printed in English, German, and French, although the prices are only given, as a rule, in marks.

GREECE.

In the Grecian Pavilion are, amongst many other interesting things, two wall-case displays of sponges, by C. **Boyazis** and E. **Catzimigos**, Ægina. We might include here a varied collection of crude calamine. This is shown crystalline and calcined, with proportions of zinc from 25 to 52 per cent.

ITALY.

A small show of autoclaves, radiometers, and other apparatus, including Riva-Rocci's Sphygmomanometer is made by **Zambelli & Omodei**, Turin, in the gallery of the Alimentary Section.

RUSSIA.

In the Russian Chemical Section, J. **Ruting**, St. Petersburg, exhibits pharmaceutical and chemical glassware. The shop-rounds slightly differ from ours in having sloping shoulders. Actinic and blue glassware is well illustrated, and in apparatus everything from the small test-tube to an intricate desiccating-apparatus.

R. **Kochler** & Co., of Moscow, have an exhibit of medicine-chests for factories, the household, and for first-aid.

UNITED STATES.

The American exhibits are largely made up of dental instruments, dental chairs of most elaborate designs and dental forceps bulking largely. Among the displays of surgical requirements is a very fine one by the **Kny-Scheerer Company** (New York), who have an operating-theatre fitted up with aseptic furniture of metal and glass, and of a kind that can readily be sterilised.

The **Miller Rubber Company** show indiarubber gloves for surgical use, which, although very thin, are claimed to be of great strength, owing to the purity of the rubber they are made of.

The **Banning Orthopedic Company** have a life-size figure fitted with trusses and other mechanical therapeutical requisites.

Messrs. **Pomeroy Brothers** show packing-boxes of corrugated paper. We noticed that the bottle-cases are tapered at the top, so as to fit the neck of the bottle they cover.

A good idea in paper bags is shown by the **Union Bag and Paper Company** of self-opening paper bags. These bags are folded by machinery, and when opened out form perfectly square receptacles. The representative told us that his company turn out thirty million bags a day from their eight bag-factories.

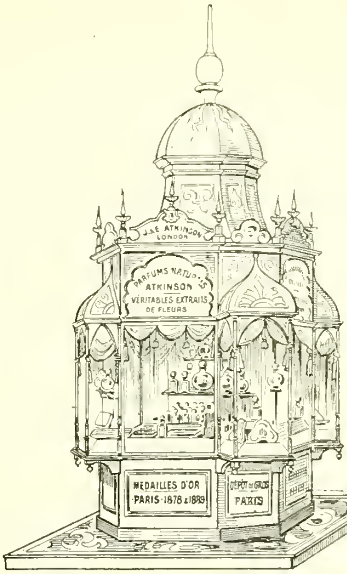
Another good idea we saw was a stencil-plate-cutting machine exhibited by the **Smith Imperial Manufacturing Company**. This machine works as simply as a type-writing machine, and cuts out stencil letters with perfectly clear outline.

TOILET PREPARATIONS

GREAT BRITAIN.

It was supposed to be the object of the French authorities, in arranging the details of the Exhibition, to organise it in such a way that every trade would be side by side, or at least in close proximity. Thus, the Chemical and Pharmaceutical Sections are under one roof, and so are the majority of other trades, but the French perfumery-manufacturers have obtained for themselves an excellent position, while the foreign perfumers are relegated to quite another portion of the buildings on the other side of the Champ de Mars. This is, no doubt, partly accidental and partly due to the fact that it has been found necessary by the Foreign Commissions to group several classes of trades together. The British perfumers have been particularly unfortunate in the space allotted to them. Take, for instance, some of the leading firms who are exhibiting, such as J. & E. **Atkinson** (**Limited**), **John Gosnell** & Co. (**Limited**), J. **Grossmith**, **Sons** & Co. Their showcases, with that of A. & F. **Pears** (**Limited**), are hemmed in on one side by a dead wall, hidden from the main gangway by the stand of a well-known firm of soap-makers, whose name is rather synonymous with washing-day, while on a third side they are overshadowed and dwarfed by a display of heavy potteryware. This distribution of space is unfortunate, but the firms interested have made the best of a bad job. Individually their exhibits are excellent and highly creditable.

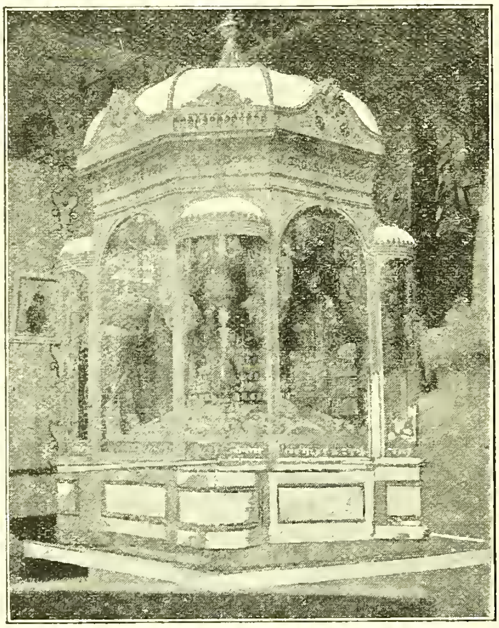
J. & E. **Atkinson** (**Limited**) have an attractive showcase of semi-oriental design, as shown by sketch. They have a handsome collection of samples of essences, and a variety of perfumery put up in high-class artistic styles as recently introduced. They claim that all their perfumes are exclusively made from flowers and natural sources, without the use of any synthetic or other artificial preparations. They have introduced, especially for this Exhibition, a new perfume called Mousse Diane; it is novel and elegantly put up. Their white rose, long a leading line, is still well to the front and popular. They also show soaps, toilet-powders, dentifrices, and a multifarious assortment of toilet articles. **John Gosnell** & Co. (**Limited**) have a handsome oak showcase, on which stands an enormous and magnificent silver bottle, bearing the charming label of their recently-introduced Famora perfume. The goods they display are principally their cherry-blossom and Famora specialities, consisting of perfume, toilet-powder, and soap. Both these odours are distinctly original, and seem much appreciated at the Exhibition, while the fact that they are very lasting renders them economical in use. Messrs. Gosnell also show a variety of their other specialities, including eau-de-toilette, cherry-


J. & E. ATKINSON LONDON
PARFUMS NATURELS ATKINSON VÉRITABLES EXTRAITS DE FLEURS
MÉDAILLES D'OR PARIS 1878 & 1889
DÉPÔT EN GROS PARIS

From Bond Street.

The Original is 12 Feet High.

blossom cream, sachets, and their popular cherry tooth-paste. A feature about this showcase is two electric mirrors, a novel form of advertising quite new to Paris. J. Grossmith, Sons & Co. have the advantage of possessing one of the handsomest showcases in the British Perfumery Section. It is of similar design to one of its neighbours, but more developed. It is painted cream-colour picked out in gold with excellent taste. This firm display Floradora, Phul Nana, Hasu-no-Hana, Victorian Bouquet, &c., in perfume, toilet-powder, and soap. This exhibit is an excellent one, arranged with considerable skill, and is justly admired.



From Newgate Street.

One has only to stand for a short time in front of the exhibit of A. & F. Pears (Limited) to understand how universal has been the advertisement of Pears' soap. Almost every visitor (and they are from all parts of the world) greets the "Dirty Boy" as an old friend. The show is practically the same as the firm have exhibited for years (a white and gold pavilion, with statuettes of the "Dirty Boy" in each corner, and a gigantic statue in the centre, with glass vases of the firm's soap-specialities sparsely sprinkled here and there), but its fascination and popularity seem as strong as of yore.

"Gorgeous" seems the proper description to apply to the exhibit of J. C. & J. Field (Limited), of Lambeth. The display of beeswax, ozokerite, stearin, and paraffin products in various stages of manufacture, perfumery, and toilet articles has been given a brilliant setting. Soaps of all descriptions and candles abound, but a considerable place is given to some elegant perfumery creations and toilet specialities. The wax mortars have a pharmaceutical air about them, and the "Fleur de Lys" toilet-soap is calculated to fetch British as well as Parisian buyers.

AUSTRIA.

Of the excellent perfume exhibits shown by Austrian firms, the palm must be given to Calderara & Bankmann (Vienna), whose perfumes are exquisitely packed. The boxes used are beautifully decorated, and in finishing preparations like "Poudre Muguet" silk-covered boxes are tied round with dainty ribbons. Extract of violets and eau de Cologne are two specialities of this firm. Josef Felix (Cablonz) has another good exhibit, the speciality being "Violettes blanches." "Savon graciosa" is put up in tasteful boxes; many of the perfumes and soaps being labelled with labels which look like photogravures, they are so soft and artistic.

Gottlieb Jaussig (Vienna) has nicely put-up perfumery, some labels being in gold, and for others a novel transparent paper is used. Kielhauser (Graz) makes violet and lily-of-the-valley specialities, and has an essence of fir for giving a pleasant perfume to sick-rooms. F. A. Sarg Fils et Cie. (Vienna) show glycerin in all-sized bottles. The labels are in blue, and are printed on the glass. Kalodent for the teeth is exhibited as well, and the case contains as a crowning-point a bust of "A. de Milly," the founder of the stearin industry. Ozokerit candles and ceresin complete the exhibit.

Hungary sends few exhibitors in this section. The chief show is by G. J. Grunwald (Budapest), of soaps, perfumes, and powders; whilst J. Jemesvary (Zombor) shows "Poudre de Reine" and "Savon de la Reine" nicely boxed.

BULGARIA.

The finest otto-of-rose exhibit in the Exhibition is undoubtedly that of Shipkoff & Co., Kazanlik, situated just opposite the main entrance to the Bulgarian Pavilion in the Rue des Nations. Messrs. Shipkoff exhibit much taste in the get-up of their case, which is in white and gold, and has plush draperies internally. Branches of red and white roses are displayed in the case, the variety of otto yielded by the different districts being particularised. A map of the country—well called the "Land of Roses"—is shown at the foot of the stand. Inside are large samples of otto in all its commercial packages. The exhibit attracts universal attention, not only by its general attractiveness, but because of the peculiarity of the circular flasks covered with flannel, carefully sealed and stamped in five places, in which the kilo. quantities of otto are exported. Many wild guesses are heard as to the probable value of one of these flasks. Other large exhibitors of otto of rose are Batzouroff et Fils (Karlovo), who display the precious perfume in artistically-shaped vases. The hot weather which prevailed in Paris at the time of our visit was sufficient to liquefy the otto in this pavilion. A nice display of perfumery and toilet-articles is made by N. Pappazoff, of Philippopilis. Some other otto shows were unfortunately not *in situ* at the time of our visit. Amongst the sundries are Anton Klaïtch, Plevna, who shows "Dantol" dentifrice-powder, and Josef R. Belopitoff, Panagorichte, various perfumed soaps.

BELGIUM.

In the Belgian "Arts Chimiques" Section, perfumes and toilet-soaps are exhibited by E. Eeckelaers, of Brussels. The wrapping and production of the soaps is tasteful and attractive, and the perfumes are well displayed. Amongst the soaps, "Violette des Bois" seemed specially attractive. Another perfume and chemical display is made here by Alexis Croeckaert, also from Brussels.

DENMARK

has one display of perfumery and toilet articles, by Fisher & Co., Copenhagen. The perfumes shown are such things as honey-water and eau-de-Cologne. Cosmetics and toilet articles are also exhibited. The labels on the perfumes are somewhat gaudy—at least, they would not be suitable for high-class trade in this country.

FRANCE.

It can doubtless be said in all justice that the French perfumery-industry has never shown to better advantage than in this Exposition. Of course it is only on such occasions that all the firms actually display their goods side by side, and one may add that this section is quite an object-lesson of the important position the perfumery-industry has to-day attained in France, and no pharmacist visiting Paris should fail to visit this court. At the Exhibition of 1889 the committee of the Perfumery Section provided the actual showcase in which the manufacturer displayed his goods, and the result was that the individual effort of each firm was confined to merely laying out their products in the most attractive way. At the present Exhibition the committee of this section has only provided in the Central Court and for the larger exhibitors a framework for each exhibitor in the form of a light trellis-work painted yellow, and relieved here and there by artificial flowers. Having this setting the exhibitors have been left to work out their own salvation in the way of fitting up the space allotted to them in accordance with their ingenuity, artistic skill, or inclination for outlay.

It should be explained that the distribution of space is drawn for by lottery, the exhibitors drawing in four sections according to size of space applied for by them. Thus some important firms occupy secondary positions and some smaller firms very prominent places, though the really small exhibitors are accommodated with showcases. The French Perfumery Section enjoys the advantage of an excellent situation near the Porte Rapp on the Champ de Mars. In the centre of the court is a fountain with the figure of a young girl kneeling—symbolical, no doubt, of perfume and eternal youth and beauty. We will not attempt to say which is the best and most attractive stand, where there are so many of high merit. Some amateurs of exquisite and refined taste might, perhaps, prefer Pinaud's or Pivert's while those who appreciate a more florid form of decoration may declare that Houbigant's stand is the best; while Vibert's is also admired, and it is certainly very attractive. For a bold original form of showing perfumery Roger et Gallet's stand is excellent, though perhaps a trifle severe. Many of the other exhibits deserve equal mention on account of their exquisite taste, but they are perhaps less striking than the foregoing. The following is an alphabetical list of the French exhibitors:—

Alexandre Agnel, Paris, perfumes, soaps, &c.

Biette Frères, Nantes, show a good selection of toilet-soap. They announce an annual output of 3,000,000 kilos.

Theophile Bijon, Bordeaux, articles of perfumery.

Vve. Bossé, Fautier & Cie., Paris, dentifrice, toilet-waters, extracts. This firm shows a patent floating soap, which floats like cork.

Botot, Paris, show their well-known dentifrice-water and other toilet-preparations.

Vve. E. Boucher, Paris, has a display of perfumery-specialities, known as "Germandreé;" also "Grenade Ruban" for the lips and "Ongliophile" for the nails.

Boyer & Cie., Cignac, Herault, show essences of aromatic plants.

Alfred Chardon, Grenoble, perfumery made from mountain-flowers.

Jules Choquet-Rafin, Paris, amber eau-de-Cologne and toilet-creams.

Chouet & Cie., Paris (London—44 Conduit Street, E.C.), show Dr. Pierre's hygienic preparations, consisting of dentifrices, waters, powders, and pastes.

J. B. Chateau, Paris, pomades, cream, and rice-powders.

Cottance, Bagot & Cie., Paris (known as the "Parfumerie Centrale"), display a very varied collection of perfumery, powders, soaps, toilet-vinegars, and other toilet-preparations.

E. Coudray & Cie., Paris, perfumery and soap.

Jules Derebergue, Levallois-Perret, toilet-soaps and soaps in powder; also a registered speciality, "Savon au Miel Dieu."

Edouard Desailloud, Paris, perfumed preparations for the bath.

Desprey & Dubois, Paris (successors to F. Millot; works and warehouse are at Levallois-Perret),show eau-de-Cologne, perfumery, and soap.

Ehrmann Frères & Cie., Paris (works at Courbevois), show extracts for the handkerchief, toilet-waters. Their speciality is "Parfumerie Diaphane."

Charles Fay & Cie., Paris, show their well-known Veloutine, rice-powders, and toilet-requisites.

Antoine Girard, Paris, perfumery and dentifrices.

Guerlain, Rue de la Paix, Paris, have a very good display of their perfumery.

Pierre Henry, Paris, specialities for the complexion, and so forth.

Raoul Hubert, Bordeaux, rice-powder.

Javal & Parquet, Paris, display the famous "Parfumerie Houbigant," and in the opinion of many experts have one of the most attractive and artistic displays in the whole Exhibition.

Victor Klotz, 18 Place Vendôme, Paris, has a remarkably artistic and beautiful exhibit in which are the perfumery specialities known under the mark "Ed. Pinaud."

A. & M. Landon, Paris, show J. v. Bully toilet-vinegar and dentifrice.

Lecaron & Fils, Avenue de l'Opéra, Paris, have the well-known and popular perfumery and fancy soaps known under the name of "Gellé Frères," of whom they are the successors.

Lemoine & Fils, Levallois-Perret (Seine).—This firm have a very attractive and artistically arranged stand, in which they show their several specialities of perfumery and soap.

Lorenzy-Palanca, 62 Boulevard des Dames, Marseilles, shows perfume, toilet-soaps, and other preparations.

Merle et Valentin, "Institute de Beauté," Paris, eau des duchesses, lotion klytia, crême klytia, and klytia soap.

Michaud, Aubervilliers (Seine), toilet soaps and glycerin.

H. Monin (Maison Dorin), Paris, show red and white toilet boxes and puffs, powders, eyebrow-pencils, and other *articles de toilette*.

Fernand Moussaud, Paris, perfumed papers, such as papier d'Arménie.

Louis Olivier, Paris (Maison Delettrez), perfumery and soaps.

François Pauly, Paris, toilet-powders. The specialities of this firm are "Amyone," Fiancé, and Koynoor.

Martin Perls, Levallois-Perret (Seine), toilet-soap, shaving-sticks, cream, powder, scent for the handkerchief.

Pillet & D'Enfert, Paris, a good show of essential oils and perfumery specialities.

L. C. Piver & Cie., Paris, scents, toilet-water, eau-de-Cologne, brillantine toilet-soaps, soaps "au suc de laitue," &c.

Louis Plassard, Paris, perfume and soaps.

Félix Potin & Cie., Paris, speciality of soaps, toilet-water, toilet-vinegar, Eau de Cologne, &c.

Pray, Paris, "Fleurs de Lys" toilet-water, tooth-powder.

Paul Prot & Cie., Paris, show the famous "Lubin" specialities.

L. Prost & Cie., Paris,perfumery articles and perfume-sachets.

Julien Raspail, Paris, hygienic articles of perfumery.

A. Raynaud & Cie., Paris, show the well-known "L. Legrand" perfumery, soaps, &c.

A. M. Rehns & Cie., Paris (Maison Violet), toilet-soap, perfumes, &c.; a charming exhibit.

De Ricqlès & Cie., Saint-Ouen (Seine), show their Alcool de Menthe.

V. Rigaud, Paris, soaps, powder and toilet-water.

Roger & Gallet, Paris, have a beautiful exhibit of perfumery and toilet soaps. Their brands are well known and world wide.

Sarradin, Paris, soaps, scents, toilet-water, powder, and perfumed oils.

Vve. A. Seguin, Bordeaux, dentifrices.

J. Simon, Paris, glycerin cream, powder, and soap.

Société Anonyme des Parfums du Littoral à Fréjus (Var), perfumery, and alcool de menthe.

Louis Vachon-Bavoux et Cie., Lyon, soaps and perfumery.

J. M. Vial, Saint-Etienne (Loire), eau de Cologne, eau de fleurs d'oranger.

Vibert Frères, Paris, soaps and perfumery.

René Viville, Paris, perfumes.

Charles Wuggishoff, Paris, toilet-water extracts, creams, powder, and tooth powder.

Antoine Witz & François Colas, Paris, toilet soaps, powders, &c.

In the building on the left of the Esplanade des Invalides is a section on the ground floor devoted to modern art. One of the panels shown there is a striking creation in pale blue symbolical of Perfume. A young girl is languorously bathing in a mist of perfume, which rises all around her. The effect is good, and seems to convey the state of ecstasy a fine perfume ought to induce.

Houbigant (Javal-Parquet successeurs).—The decoration of this firm's exhibit has been entirely executed from drawings by Mucha, the well-known symbolistic painter. The artist's idea was to produce an apotheosis of perfumery obtained from flowers. Four panels painted by Mucha show the principal flowers used in perfumery, and the panels are surrounded by friezes of great elegance. The artist has carried out his work with originality, considerable power, and great harmony.

Raw materials for perfumery form a very good and striking annex to the French Perfumery Section. The various exhibits are displayed in showcases of colour and style uniform with the rest of the section. Bing, Fils & Co., Paris, make a very good show of various essences, such as roses, "Ylang-Ylang," "Kananga," "Geranium de Bourbon," "Palma Rosat," "Santal," as well as dried plants producing essences. They also have a very good and interesting exhibit in the Pavilion of Hunting, Forestry, &c., between the Eiffel Tower and d'Iéna Bridge, giving an elaborate scene of hunting the musk-deer, &c. Antoine Chiris, Grasse, has the largest exhibit in this section, and shows his well-known materials for perfumery, concrete perfumes, imported raw materials, &c. Augier & Co., Paris, show principally essences. Boyer & Co., Gignac, Hérault, essences of aromatic plants. Boyveau, Sittler & Baube, Grasse, have a good collection of fixed and essential oils, concentrated extracts, &c. Bruno-Court, Grasse, raw materials, olive oils, pomades extra-saturated with flowers, concrete essences of flowers, &c. Hugues Aîné, Grasse, raw materials for natural perfumes from flowers. Jeancard & Gazan, Cannes, exhibit raw materials, including a fine series of extracts and essential oils. Lautier Fils, Grasse, raw materials, essences, extracts, olive and almond oils. Lhermine et Cie., Nice, perfumed pomades and oils, essences, and essential oils, &c. Pillet et D'Enfert Paris, essential oils and raw materials. Raphel-Carbonel.

Vallauris (Alpes-Maritimes), essences of neroli, peppermint, lavender, geranium, &c.; orange-flower water and rose-water, oil of sweet almonds, &c. P. Robertet & Co., Paris (Espinass et Pichelin Successeurs) and Grasse, perfumed essences, raw materials, &c. Roure-Bertrand Fils, Grasse, essential oils, and their principal constituents; concrete essences, solid essences drawn direct from flowers; concentrated extracts of flowers. Société Anonyme des Parfums du Littoral, Fréjus (Var), synthetic products, concrete essences, &c. Warrick Frères, Grasse, essences, concrete essences, pomades and oils perfumed with flowers, concrete essences, orange-flower water, &c.

Machinery for manufacturing perfumery and soap is shown in an annex near the French Chemical Section by Beyer Frères, Paris, and Wm. Lambert et Fils, Paris.

Centennial Exhibition.

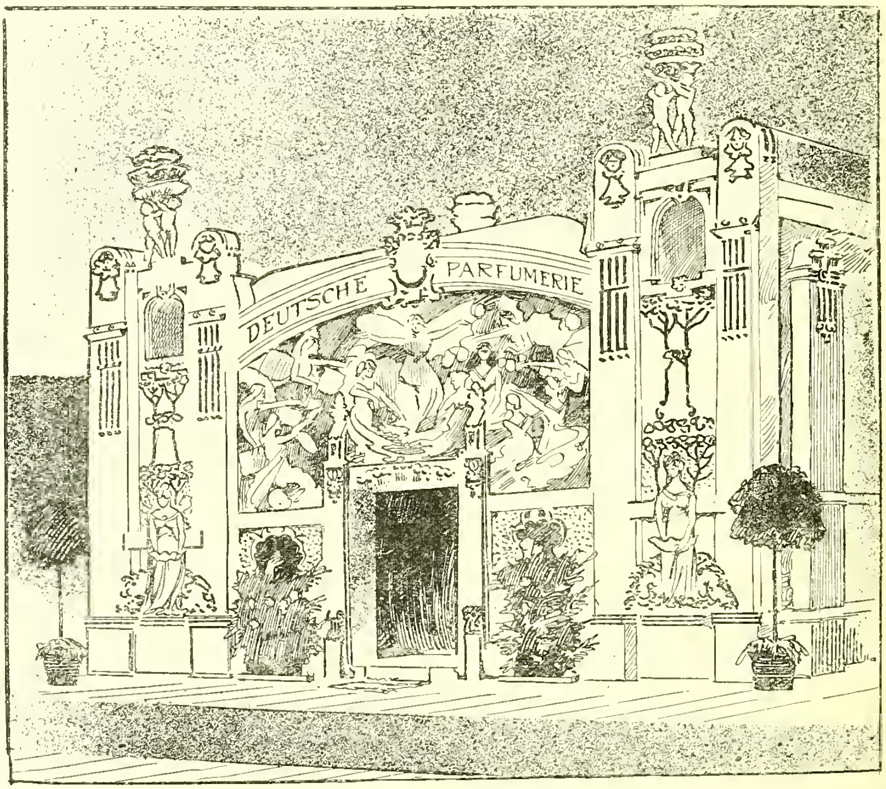
In common with almost every other French section, the perfumery trade has an interesting Centennial Exhibition of its own. Private collections have principally contributed to supply the materials, which consist mainly of old literature relating to the perfumery industry, as well as some very curious old bottles such as ladies of quality were accustomed to use in the days preceding the great French Revolution. Thus one can trace what was, perhaps, the origin of the trade in France, when the famous perfumer René, of Florence, who was encouraged to come to Paris by Catherine of Médicis, opened a shop on the Pont-au-Change. Then the taste for using perfumes developed during the long reign of Louis XIV. until, under Louis XV., it became a source of great extravagance amongst the aristocracy, Madame de Pompadour being reputed to waste a sum equal to 20,000*l.* per annum on perfume and odour. But with the Revolution the trade almost came to a standstill, only to be revived towards the end of the first quarter of the present century, when the introduction of machinery and scientific discoveries gave an impetus to all classes of trades, until the perfumery industry has reached the importance and perfection as seen at the Exhibition of 1900.

Most of the French colonies show samples of perfumery, soaps, or essential oils, but the exhibits in this line are of secondary importance.

GERMANY.

In close proximity to the German Chemical Section is a small but lofty and handsome hall, which accommodates the leading German perfumers. A great deal of trouble has been taken and expense involved in erecting this hall, which is very striking and has a distinct character of its own. On either side of the entrance is a large female figure holding huge baskets of flowers, symbolical of the perfumery trade. Two small fountains in the interior give an air of coolness to the atmosphere. By the nature and style of this Section it is little wonder that some of the public have a tendency to place the German perfumery industry next in importance to the French. As a matter of fact we heard a well-known Paris perfumery manufacturer say that taking the industrial portion of the Exhibition as a whole it appears to be a Franco-German display, the other countries to a great extent being only accessories. The following is a concise list of the exhibitors:—

Georg Dralle, Hamburg, shows perfumes and soaps, including his specialities Augusta Victoria Veilchen, Birkenwasser, Sapodont, and others under his trade-mark "Colibri."



German Perfumery Hall.

Jean Marie Farina, Cologne, has a display of eau-de-Cologne. This brand is much appreciated in France through the efforts of the Paris agent, M. L. Feret.

Dr. Graf & Co., Berlin, exhibit various articles of perfumery, for which they find a market principally in Austria and Belgium, in addition to the home trade in Germany.

L. Leichner, Berlin, who acts as Vice-President in the Perfumery Section, likewise shows sundry articles of perfumery, as do also

Juenger & Gebhard, Berlin. This firm have hit on a very attractive way for showing their goods by making their exhibit in the form of a miniature theatre. It is very much admired.

J. G. Mouson et Cie., Frankfort-on-Main, have a very good display of perfumes and toilet-soaps, as well as eau-de-Cologne toilet-waters. This is one of the oldest-established houses in the trade in Germany, having been founded in 1798. They have an agency at 32–33 Hamsell Street, Cripplegate, E.C.

Treu & Nuglisch, Berlin, have an attractive exhibit of perfumery, toilet-soaps, lavender-water, &c. They started business in 1823, are "perfumers to the King of Prussia," and cultivate an export trade.

F. Wolff & Son, Karlsruhe, make a handsome display of perfumes and toilet-soap. This firm was established in 1857, and employ 400 workpeople. They have exhibited in Philadelphia (1876), Sydney (1879), &c., and have everywhere received awards.

GREECE.

In the Grecian pavilion are seventeen separate exhibits of perfumes, soaps, and other toilet articles, and mention may be made of that of **Jeanna Copoulos & Papachristou**, Athens, of perfumery and soap.

HOLLAND.

This country is represented by **Boldoot** (Amsterdam). He has a pretty case with a gilt-filagree dome wherein are displayed perfumes nicely put up in cut-glass bottles, capped with leather, and tied with ribbon. The style of the perfumes does not come up to the best English packing.

ITALY.

Perhaps the most striking exhibit in the Italian Chemical-industry Section is the oaken cabinet, artistically carved, in which are displayed the perfumes and toilet preparations of the **Farmacia di S. M. Novella**, of Florence. In the centre is a large brass stand, on which is a quantity of orris-root; above this is the powder, and round about on each side are glass shelves, with perfumes in fancy stoppered bottles, the curiosities being egg-shaped bottles with long necks and long glass stoppers. Strewn here and there in the case are delightful hand-painted silken sachets, and the corners of the case are filled from top to bottom with small bottles of aromatic vinegar, nicely-tinted blood-colour, and toilet-waters, each bottle being suspended from a brass support. **P. Rossi**, of Parme, shows the true Violette de Parme. **Pietro Bortolotti** has a fine solid-looking exhibit of perfumes and toilet-waters well arranged—"Acqua di Felsina" being much in evidence. An effective idea in the labelling of the perfumes used in this case is a scroll label on the top, with the name of the perfume and nothing else upon it; the main label, which is separate, is placed immediately beneath. There were several other perfume shows, some of them badly arranged. In one case we noticed a box of toilet-powder had been broken, and the gentleman who dressed the case had dipped his fingers in the powder, and smeared all the other boxes. Italy has altogether about twenty-six exhibits, many being displays of essences by Messina firms.

MEXICO.

In the pavilion of this Republic there are about twenty exhibits more or less connected with the perfumery trade.

Monaco, Nicaragua, Norway, Peru, Roumania, Sweden, and Turkey all have a few exhibits in the Perfumery Section. Portugal also makes a fairly good display with articles of toilet and perfumery. Corea supplies sundry perfumes, and **Carlos Tinun**, Guayaquil (Ecuador), shows some good specimens of soaps.

In the Cuban Section in the Trocadero, **Crusellas & Co.**, of Havana, have a show of eau-de-Cologne and other perfumery and toilet articles. The get-up of these articles is commendable but not extremely striking.

RUSSIA.

The Russian perfumery exhibits, like those of Great Britain, are shown mixed up with the more strictly chemical and pharmaceutical displays. Some of the Russian perfumery stands are very noticeable, being gorgeously ornamented. One of the most characteristic exhibits is that of **A. Rallet & Co.**, of Moscow. It is devoted to perfumery and toilet-articles, the bottles for which are all richly decorated and distinctly ecclesiastical in design. The soaps are wrapped and packed similar to British. Rose, heliotrope, and violet soaps are represented, and a large quantity of milled soap, bearing a resemblance to our brands of Brown Windsor. The exhibit by the **Laboratoire Chimique de St. Pétersbourg** is entirely devoted to perfumes, soaps, and toilet-articles, which approximate to the British in style. The eau de Cologne, though labelled in Russian, is much the same in appearance as the Cologne article, the wicker size being but slightly different. We noticed at this stand a pretty and novel way of packing perfumery bottles; the capped and labelled perfumes are placed in celluloid cartons of different colours, through which the bottles show. The colours used are rose, amber, green, and blue. Another fine perfumery-display is made by **A. Sciou & Co.**, Moscow. As in the previous case, the perfumes and toilet-soaps are got up much in the same manner as our own. The "Excelsior" brand of preparations looked British, and a "Savon Ylang-Ylang" looks like a reproduction of a well-known British toilet-soap. Charming varieties of soap are "Savons" Jockey Club, Lanoline, Opoponax, and Royal Lily. Another perfume-exhibit by the **Société Brocard & Co** is lavishly emblazoned. Some of the perfume bottles are chaste and elegant. They are too varied, however, to attempt to describe in detail. The familiar soap-fruits, so much in vogue with us a few years ago, are exhibited along with a large variety of other soaps, perfumes, and powders by **Frederick Puls**, of Warsaw. One of the curiosities of this exhibit is the "Poudre et Parfum Wedgwood." Each bottle and cake is wrapped in tissue-paper, and the perfume is pleasant and persistent

SPAIN

has twelve very fair exhibits of perfumery articles. The principal are:—**J. Font & Co.**, Las Corts, province of Barcelona, perfumes and toilet-soaps; **Maria Marti**, Barcelona, perfumes; **Francisco Oliveros de Boneu**, 6 Passage de Madoz, Barcelona, perfumes; and **Rius y Cercós**, Reus, Tarragona, soaps.

HYGIENE

GREAT BRITAIN.

The principal exhibits in this section are to be found in the gallery behind the machinery section, bordering on the Avenue de la Motte Piquet, and overlooking the great wheel. In this section **Jeyes's Sanitary-compounds Company (Limited)** have several exhibits, but we could not discover that any great attempt had been made by British manufacturers of disinfectants and other hygienic products to show here to any great extent.

AUSTRIA.

The **Institutat Vaccinal de l'Etat** from Vienna have as their "draw" in the Hygienic gallery a model of a calf trussed up to show how the vaccine is taken.

DENMARK.

The **Finsen Medical Institute**, Copenhagen, have an interesting exhibit of the apparatus and rooms used for light-cures. There is a room illuminated with red rays only, for the treatment of smallpox. The unpleasant pitting of the face is avoided if the patient is only exposed to red light. The room is like a well-lit photographic dark-room, but may not seem so pleasant when one has to spend a few weeks in it. Another part of the same exhibit is devoted to showing the method of applying the light-cure for lupus. The lady in charge was herself cured of lupus on the face by a course of treatment at the Institute, and she explained the treatment enthusiastically. The light of a powerful arc-lamp is passed through a weak ammoniated-copper solution, and concentrated by a condenser on to the affected part, the eyes being protected from the intense light by dark spectacles. The method of applying sun-baths to convalescents is shown in another section. The patients are in small compartments like horse-boxes and lie naked in the sun for so many hours a day. The baths have a wonderfully restorative effect. A full account of this method of treatment appeared in the *Lancet* some months ago.

FRANCE.

Close by the Palais des Armées de Terre et de Mer is the pavilion of the **Croix Rouge de France**. It is divided into three sections, the Société Française aux Blessés Militaires, the Association des Dames Françaises, and the Union des Femmes de France. The central section (occupied by the Société Française) contains several types of medicine-chests completely fitted. The prevailing type seems to be a folding box divided into three sections, each section being partitioned off to hold the medicines employed, somewhat after the French navy style. Square-stoppered bottles are used, the labels, bearing a red cross in the corner, being written by hand. Generally the contents are similar to those of English medicine-chests.

The **Union des Femmes de France** possesses equipment for 166 auxiliary station-hospitals, with 7,000 beds ready, in addition to 18 auxiliary field-hospitals, with provision for 1,800 beds. The union (which is maintained by voluntary subscription) exhibits the dressings, surgical instruments, medicines, &c., employed in the hospitals. There appears to be an abnormal supply of glyzine—a substance which looked like permanganate of potash crystals. The poisonous substances are labelled "Toxique" as well as "Poison." A model of their large hospital at Auteuil is shown by the **Association des Dames Françaises**, and types of hospital requirements.

In the hall of the main entrance to the Hygiene building a statue of Pasteur in the act of being crowned with laurel occupies the central position, whilst a complete model of the Pasteur Institute is at his feet. All round the sides of this spacious hall are the records of Pasteur's work. An enthusiastic bacteriologist can spend two or three days in this portion alone tracing the genesis and progress of the researches of the scientist of whom France is so proud.

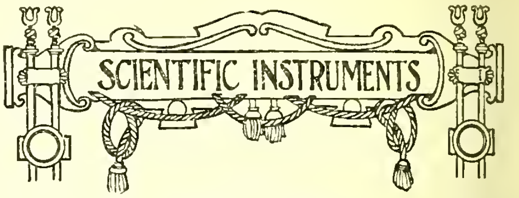
From such things as these inexorable fate takes us to exhibits of infallible insecticides, "rodenticides," and disinfectants. E. **Bouquain**, of St. Maurs des Fosses, exhibits insecticide Ravois, Attila rat-poison, lysol, and many other disinfectants. A neighbouring stall is devoted to Laurenol antiseptic and "Liniment Geneau," whilst Jeyes's "Creolin" is placed in an exhibit of disinfectants made by P. **Mere**, of Chantilly.

The section devoted to **Assistance Publique** is most interesting. It represents the contrast between the methods of to-day in the administration of public charity and that of a hundred years ago. In the medical section modern hospital-luxuries, with glass and porcelain utensils and an iron bedstead with spring mattress, are faced by a hospital-bed reproduced exactly as it existed at the Hôtel Dieu at the end of the eighteenth century. In this bed are four (model) patients, two at the head and two at the foot. The shelf at the head bears pewter utensils, at the side is a wooden stool, and at the foot a huge jar for *tisane*. In the same room ancient surgical instruments in drawers are contrasted with a modern instrument-cabinet of glass with nickel frame.

In the **Section de la Première Enfance** a model of the tower where abandoned children were left to be taken care of by the municipality is shown, and near by an apparatus for the sterilisation of milk, and incubators, from the Maternity Hospital. It is in this section that the pharmacy-jars and "biberons," to which we referred elsewhere, are exhibited.

RUSSIA.

The **Russian Medical Department** gives a complete exhibition of the military medical service in the Palais des Armées de Terre et de Mer. The apparatus includes the type of press used in the Russian army for compressed dressings; Dr. Raptchewski's steriliser for dressings; an autoclave for formaldehyde disinfection and surgeons' saddles with leather cases and compartments for instruments and compressed drugs. The ambulance outfit attached to an army brigade is also shown, containing first-field dressing (two squares of sublimated wool 1 per cent., folded in sterilised sublimated gauze, bandage and safety-pin). The pharmacological department shows the drugs used (most of them in compressed form) in large glass cases, and numerous photographs reveal the process of drying sublimated wool, and the manufacture and packing of dressings. A further exhibit is made under "La Croix Rouge in Russia" in the gallery of the Hygiene Section. The "Medical apparatus" includes stomach-pumps, catheters, and injection syringes. Amongst the alimentary products are tea in tablets, Liebig's extract, cocoa, and condensed milk. The pharmaceutical utensils embrace pill and cachet machines, balances, evaporating-dishes, flasks, filter-papers, capsules for powders, cachets of rice-paper, eye-droppers, and four porcelain mortars.



SCIENTIFIC INSTRUMENTS

GREAT BRITAIN.

Five firms exhibit scientific instruments in the British Section. Messrs. **Watson & Sons** have a show of microscopes for scientific and biological use. One very fine instrument is priced at 44*l*. 10*s*., and is possessed of every possible movement. A 10-inch spark-coil is shown in the electrical department of the case, and among a large number of sundries for use with the microscope we noted the colour-discs for Rheinberg's multiple-colour illumination. A display in three cases of instruments by the **Scientific Instrument Company**, Cambridge, fully maintains British supremacy in these goods. This observation is prompted by a remark made to us by a German that it is the dream of German instrument makers to spend a few years in an English factory. The instruments shown here are those used in the higher branches of physiological researches, some finely-adjusted microtomes appealing to botanically-inclined pharmacists. Messrs. **Ross (Limited)** show some excellent microscopes, whilst Messrs. **Negretti & Zambra's** exhibit partakes largely of a meteorological character. Mr. J. J. **Hicks** has a case in rather a dark corner of this section. The exhibit is a complete collection of the instruments which Mr. Hicks is noted for. There are a heliograph for signalling by the Morse code as supplied for Government use in South Africa, and the Watkin mekometer and clinometer for adjusting guns. Of thirty-five different patterns of clinical thermometers each possesses, we are told, a peculiarity. One we noticed was self-registering and ungraduated. It is intended to be left with a nurse, and the medical man can read off the temperature recorded at any particular time by placing the tube in a graduated case, which he retains possession of. The self-registering alarm-thermometers have been noticed before in the *C. & D*; they ring a bell when certain temperatures are reached. A new pattern is for horticulturists' use, to warn when the temperature of a greenhouse becomes either too cold or too hot. Mr. E. S. **Bruce** (Kensington) is showing the aërial-graphoscope for obtaining ghost-effects on the stage. The instrument is simply composed of a cross of two white lathes, which is very rapidly revolved, either by a motor or by hand, whilst a suitable lantern-picture is projected; the result is as if the picture were standing in the air. A curious freak of classification has led to the inclusion of a case of theatrical wigs in this section.

AUSTRIA.

There are seven exhibitors of scientific instruments in thi section, and one other firm, who make a speciality of opera glasses, spectacles, and pincenez.

BELGIUM

has four exhibitors of scientific instruments, one of the firm showing chiefly surveying-instruments. Messrs. **Becker** **Son & Co.** (Brussels) have an assortment of the balances an dispensing-scales they are noted for. They also exhibit i the Holland Section.

FRANCE.

According to the census of 1896, there are in Franc 250 establishments making scientific instruments employin more than five persons each, the total number of person employed in the 250 factories being 9,650. Many of th factories are situated in the neighbourhood of Paris, bu factories are found at all the large cities in France Spectacles and opera-glasses are produced in large number—indeed, France is said to produce 400,000 opera-glasses year. After this last statement, it is not surprising that c the 132 exhibitors in this section (which includes medals an coins) the greater part are makers of spectacles an opera-glasses; some are also selling spectacles at the Exhibition.

The firms exhibiting balances and scales show some very well-made instruments, the "French scales" used in retail trade in Great Britain being a tribute to the fact that the French are large makers of these goods. Some of the balances displayed are very pretty: one in ebony case and with silver-plated metal parts attracted our attention. Calculating-machines are shown by three firms, the "Dactyle" (CHATEAU PÈRE ET FILS) being the more elaborate. Allied to calculating-machines are the slide-rules; these are shown in many varieties. It is probable that, before the new century is many years old, the calculating-machine will be as common as the typewriter now is. Some excellent thermometers are exhibited by M. CHABAUD and M. BAUDIN. The former shows some toluene thermometers graduated in fifths from 0° to 120° C. Toluene has the advantage of giving a longer column than mercury, but it is not so easy to read. M. Baudin has some, graduated also in fifths, as furnished to Berthelot & Mosso (Turin). This same exhibitor has a great variety of graduated tubes. In microscopes MM. NACHET ET FILS have an important display, whilst in prepared microscope-slides M. TEMPÈRE outdistances other exhibitors in variety. M. Chopy makes a speciality of optically-worked glass, and M. RADIQUET of mirrors for surgical and dental purposes. These are made of worked glass. M. WAGNIER'S show of alcoholmeters, densometers, thermometers, areometers, pipettes, and burettes is excellent. The chief novelties in opera-glasses are the prismatic ones and a new folding-kind. The "Mars"—one of the latter kind—folds into a flat case and takes up little space in the pocket.

GERMANY.

The exhibit which the German mechanical and optical trades make is a joint one, and shows the strides Germany has made to secure a foremost place in the manufacture of scientific instruments. Great Britain and France at one time took the lead, and were able to supply the entire world with scientific instruments, but that position is now being hotly contested by Germany. The prominent position of Great Britain in scientific instruments is ascribed to the demand for astronomical and nautical measuring instruments, due to the navy and merchant service; whilst in France the great geometrical survey of Cassini demanded the construction of astronomical and surveying instruments of greater delicacy than were then obtainable. The German Association of Mechanicians and Opticians, founded in 1881, has for its object the scientific, technical, and commercial development of philosophical instrument making, and publishes a journal—*Zeitschrift für Instrumentenkunde*. In connection with the Association technical schools are established in Berlin, Frankfort-on-the-Main, and other towns where theoretical and practical instruction is given to the rising generation. The Imperial Physical and Technical Institute, established in 1887, has also helped to stimulate the scientific-instrument trade in Germany.

The joint exhibition is divided into ten sections:—(1) Meteorological and standardising instruments; (2) astronomical instruments; (3) surveying and nautical instruments; (4) meteorological, geomagnetic, thermometric, and calorimetric instruments; (5) optical instruments; (6) electrical measuring instruments; (7) electro-medical, physiological, and biological instruments; (8) appliances for chemical and chemico-physical research; (9) drawing and calculating appliances; (10) appliances for the examination of materials and for special purposes, special tools, and auxiliaries.

The meteorological and standardising instrument trade owes its rise to the demand for exact appliances by the astronomer Bessel, seventy years ago, for the purpose of fixing standards for the old Prussian system of measures. The Germans boast that a considerable portion of the equipment of the "Bureau International des Poids et Mesures" has proceeded from German workshops. The IMPERIAL NORMAL-AICHUNGS-KOMMISSION (Standards Office), Berlin, contribute to this group some splendid pieces of apparatus. We were interested in an elaborate vacuum-balance used for comparing weights where the weighing demands the highest degree of accuracy. The sets of standard weights and measures, thermometers, and Customs apparatus are very interesting. Balances are included in this section, eight makers exhibiting specialities in that line.

The astronomical-instruments section includes telescopes and spectroscopes. Fraunhofer's investigations in optical glass-smelting, followed by those of Abbe and Schott, of Jena, have resulted in the production of a glass in which the chromatic differences of spherical aberration can almost completely be compensated, and great improvements made in telescope lenses.

The section dealing with meteorological and temperature-measuring instruments is another which interests pharmacists and chemists. It appears that twenty years ago the manufacture of thermometers almost came to a stop in Germany owing to the "periodic changes" in glass. Investigations led to the production of a pure sodium glass, and more recently a boro-silicate glass, in which this defect is minimised. If both potassium and sodium are present in the glass the periodic changes are so great as to render thermometers made with it useless after a certain time. The discovery of a process of filling thermometers with mercury under pressure (20 to 25 atmospheres) has enabled thermometers to be constructed up to 550° C. In the exhibit of F. O. R. GOETZE, Leipzig, there are some thermometers with a looped form of mercury-reservoir, so that a portion of the mercury can be isolated in order that small differences of temperature at all temperatures can be measured by Beckmann's method. Another exhibitor, UEBE, of Zerbst, has some novelties in clinical thermometers. A lingual minute thermometer has the mercury-reservoir divided into two horns, whilst another series have blue enamel markings and coating, to make a greater contrast between the mercury, and so facilitate reading.

In the section devoted to optical instruments, photometers, spectroscopes, polariscopes, and microscopes of various makes are shown. Among the microscopes shown those by ZEISS (Jena) attracted our attention. The construction of homogeneous immersion-lenses, which originated at the Zeiss works, has been improved by the use of mono-bromide of napthalene, by which a lens with a numerical aperture of 1·6 is obtained. Projection lanterns are also shown in this section, as well as photographic objectives, in which Jena glass is largely employed.

The electro-medical appliances department, Röntgen-ray apparatus, and opticians' requirements are shown, whilst section 8, comprising educational appliances, includes many of the finest and costliest instruments made.

Section 9, devoted to drawing and calculating instruments, includes two types of calculating-machines—the Burkhardt arithmometer and the Brunsviga calculating-machine.

The export of scientific instruments from Germany in 1898 was as follows:—

	Marks
Astronomical, optical, mathematical, physical, and electrical instruments ...	8,975,000
Raw optical glass (flint and crown) ...	625,000
Optical glasses (spectacles, reading-glasses, and stereoscope glasses) ...	3,139,000
Telescopes, field-glasses, opera-glasses, and mounted spectacles	1,526,000
	14,265,000

This is three times what it was in 1888. There are 790 establishments engaged in the business, employing altogether 13,625 persons.

A natty display of scientific instruments in glass is made in the Chemical Section by F. FISCHER & ROEWER, of Stuetzerbach. An exhibit by WARMBRUN, FUILITZ & CO., Berlin, includes models of Ostwald's thermostat, an electric apparatus for heating glass beakers, vacuum-pumps, an improved Bunsen burner (as simplified by Allihn), an elaborate apparatus, designed by Finkener, for the extrication of gases in an absolutely pure state, and the same inventor's apparatus for estimating the percentage of sulphur or carbon in iron. MAX KALHLER & MARTINI, of Berlin, show apparatus for determining boiling-points, Kjeldahl's nitrogen apparatus (modified by Taylor), and a small model in glass of Barge's apparatus for producing sulphuretted hydrogen. Partly hidden in a corner of one of the ledges are some "Tubes selon Dewar," "Dewar's Röhren."

ITALY.

Koristka (Milan) has a good show of microscopes and accessories.

JAPAN.

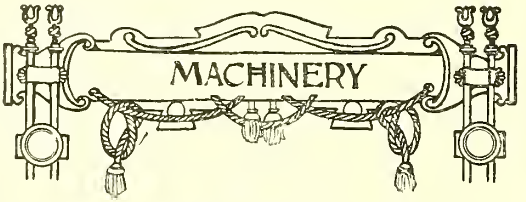
Out of seven firms exhibiting under this head, five show balances. These do not, as far as we could judge, differ from Western models.

RUSSIA

exhibits chiefly meteorological instruments. **Maikerantz** (St. Petersburg) shows thermometers.

UNITED STATES.

Three firms show calculating-machines, three have scientific instruments, and most of the others are devoted to optical goods. **Professor Rowland** shows specimens of his diffraction gratings; and the **National Cash-register Company**, with their cash-till, are included in this section.



MACHINERY

GREAT BRITAIN.

The familiar horizontal gas and oil engines of Messrs. **Crossley Brothers (Limited)**, Openshaw, Manchester, make a good show in the Machinery Section. They are shown in operation, and the automatic lubrication and regulators to gauge the consumption of gas are evident economical facts which commercial men are not allowed to overlook.

In the gallery devoted to mechanical engineering, Messrs. **W. & T. Avery (Limited)**, Birmingham, exhibit various weighing-machines in operation. The most interesting to pharmacists are an automatic-machine for packing small powders, and automatic grain scales. The automatic measuring-machine measures powders such as seidlitz in quantities from 36 gr. to ½ lb., without varying more than a few grains either way. This it does at the rate of twenty per minute. The powder or substance to be weighed falls from a hopper through a shoot into a drum, where the quantity is automatically measured off to the weight required. The drum then automatically tips over and discharges the powder through another shoot on to the seidlitz-paper, or into the box in which it is intended to be packed. In the case of seidlitz-powders the papers are automatically conveyed under the bottom shoot to receive each separate weighing, and afterwards automatically removed to the packers.

The **Riley Manufacturing Company (Limited)** have a large stand in the Food-products Section, showing various types of aërating-machinery in operation.

AUSTRIA.

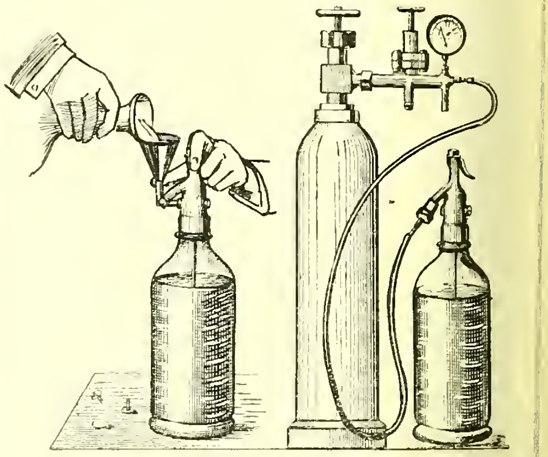
Dr. **Wagner & Co.**, Budapest, exhibit in the Hungarian Chemical, Arts, and Pharmacy Section soda-water machinery. Most of the machines are for compressed gases, the installations not appearing to differ materially from English machines. The shapes of the Hungarian syphons are, however, rather unusual. We figure the elliptical one. There are dodecagonal and pyramidal shapes as well. The mouths of some of the syphons are peculiar, and remind one of gargoyles.

FRANCE.

This important section contains many exhibits of aërated-water machinery and appliances. One of the best exhibits in the department is made by **Guéret Frères**, Paris, who exhibit about thirty different models of syphons in white, blue, green, and yellow crystal glass, with nickelled-gilt or silvered tops. MM. Gueret have besides complete installations for the manufacture of aërated waters, and filling is demonstrated. Types from the single hand-filler to the intricate revolving-filler capable of filling from 800 to 1,000 syphons an hour are exhibited, besides water-filters, syphon-top cleaners, and all the paraphernalia of the mineral-water factory.

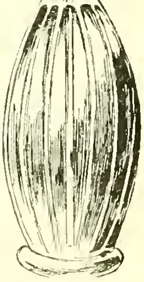
De Fevres have one or two exhibits of seltzogenes, but this part was unfinished when we visited it. An elaborate show is also made by **P. Bobet**, Paris, of syphons and apparatus for making gaseous waters. Similar exhibits are made by **H. Brulé et Cie.**, **J. Malesset**, and **E. Chouanard** (whose seltzogenes were prettily covered with gilt wire, silver wire, or vari-coloured straw), **Pridou et Dubost**, and **Emringer, Marchand et Cie.**, Paris. The Selsodon is described as "a new domestic apparatus for the instantaneous production of seltzer and other gaseous drinks by means of selsobulles." It appears to be an adaptation of the "Sparklet" to the seltzogene, and is being well pushed by means of literature and practical demonstration. A simple apparatus for making ic (*glacière*) or icing sherbets, champagnes, or other drinks is shown by **G. Baron**, "Pharmacien, Chimiste, Expert-Naturaliste, Herudenéculteur," and many other thing besides. It is on the usual sulphate-of-soda and hydrochloric-acid system. The "Carboseltz," which we illustrate is advertised by the maker, **H. Carrière**, Wizerne (P. de C.), as being capable of producing carbonated wate at 2c. per litre. As will be seen from the illustration, it is case of "every man his own syphon-filler."

LE CARBOSELTZ

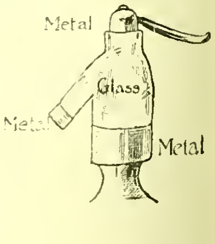


The **Compagnie Raoul Pictet** have a large plant lai down on the ground floor of the Machinery Section showin the process of manufacturing sulphurous anhydride.

The syphons of **P. Delorme, Fils et Cie.** are disti guished by being constructed with a glass top; an interna screw and metal bands are used to hold the parts togethe The contents of the syphon touch glass only. The style the syphon-head is shown in the smaller illustration.

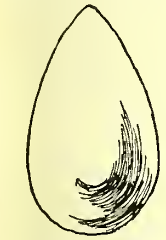


Hungarian Syphon.

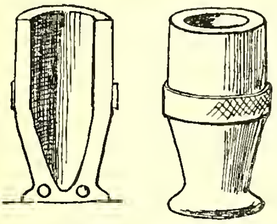


Glass Top for Syphon.

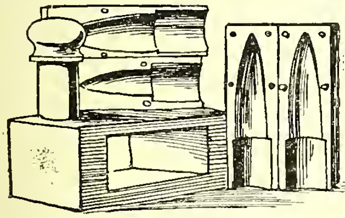
M. **Segaud's** exhibit of pharmaceutical apparatus contains some new ideas. Pill-machines in which the handle-part is entirely of metal are shown, and others have a depression at the top end of the machine for rounding-purposes. We were interested also in the large variety of suppository and ovule moulds shown. Moulds for a single suppository are fairly cheap. The moulds are in two pieces, and are clamped together for use. The compression method of making suppositories has called for several new forms of pparatus. The kind figured is one of the simplest, and xplains itself pretty clearly. The mass for the cold process is made of a pilular consistence from a formula like the following:—



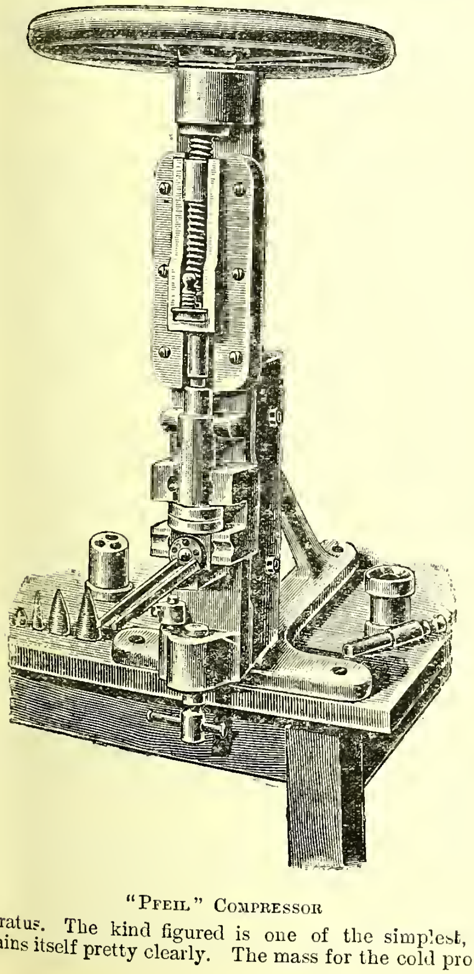
Gelatin Ovoid Pessary.



Suppository Mould.



Suppository Mould.



"Pfeil" Compressor

Powdered gum acacia	ʒv.
Sugar of milk	℥iiss.
Honey	ʒj.
Glycerin	ʒiss.

The resulting suppositories may be gelatin-coated (by dipping into a glycerin-gelatin solution) if they are to be kept for any length of time. The formula is interesting as being a modification of the basis recommended by Galen.

GERMANY.

A good collection of pharmaceutical machinery is made by **Plath & Piepmeyer**, Cassel, in the Chemical-industry Section, and in the same place another German firm show apparatus and unwieldy machines for use by chemical-manufacturers. Utensils and apparatus in porcelain, glass, and metal are likewise well represented. **W. C. Heraeus**, Hanua, has a fine show of platinum goods, the centre-piece being a complete model of sulphuric-acid plant. A platinum pyrometer, platinum retorts, acid-tubes, and capsules abound, and an instrument is shown, manufactured of an alloy of iridium and ruthenium, for measuring temperatures of about 2,000° C. A large still, the still and worm being in pure silver, is shown, along with an evaporating-dish of the same metal. The still has no soldered joints, the connections being made by means of outside screws.

Fritz Kilian (Berlin) shows several useful lines in pharmaceutical machinery. There is a nice-looking tablet-machine—the "Pfeil"—which works automatically, the material being put into one hopper and the tablets discharged into a basin from the other side of the machine. The maker compares his machine with others to the disadvantage of them all, but as we did not see the machine working we are not prepared to back up his assertions. The machine figured here is one for making suppositories, bougies, and the like by compression. The samples of these pharmaceutical products exhibited were perfect.

BEVERAGES & FOOD STUFFS.

GREAT BRITAIN.

On the left of the Salle des Fêtes, looking towards the Château d'Eau, is the building devoted to Agriculture and Foodstuffs. The British group—small and unimportant-looking beside the impressive displays of Russia, Germany, and even Japan and Hungary—is on the ground floor. The largest exhibit is Messrs. **Huntley & Palmer's (Limited)**, the Reading biscuit firm. Several very neat trade-exhibits are to be discovered in unlooked-for corners. Messrs. **Spratts (Limited)** have a secluded alcove which contains a complete assortment of the Spratt specialities, and alongside the Old Calabar biscuits are placed. Messrs. **J. & J. Colman (Limited)** have a pretty but unpretentious stand near by. The principal attraction in this exhibit is a fine model of the Norwich works, showing the railways, buildings, offices, cottages, &c., belonging to the famous mustard firm. A long photograph showing the river frontage gives some idea of the ground covered, and dried specimens framed in ebony of the mustard and the rice plants indicate the composition of the condiment. Mustard oils, crude and refined, glint invitingly in glass cylinders. Bottled fruit and table-jellies are well displayed by Messrs. **S. Chivers & Sons**, of Cambridge. The beef-juices and jellies of Messrs. **Brand & Co.**, of Mayfair, make a goodly show. Messrs. **Lipton (Limited)** have a display of jams, jellies, coffee essences, extract of beef, and fluid beef. The finishing touches were being put to a "**Bovril**" bar when we visited the section.

Cooling drinks look never more inviting or grateful to the parched Parisian sightseer than when he contemplates the stand of Messrs. J. SYMONS & Co. (LIMITED), of Totnes. The sight of the renowned Devonshire cider makes the tongue feel less leathery, and this liquidity is increased by passing on to Devonshire "Chablis," "Hock," or "Symonia" champagne. Many perspiring weary pilgrims who gaze with indifference on the neighbouring liquor manufactures of Dunville, Dewar, and Guinness show symptoms of returning *joie de vivre* when confronted with the delectable products of Symons and his neighbour "Stower" (of lime-juice and lemon-squash fame), whose trade name is ALEXANDER RIDDLE & Co. (LIMITED). This state of ecstasy is kept up by a contemplation of the gold and silver syphons and bottled table-waters of Messrs. IDRIS (LIMITED). The "Idris" syphons are very handsome, and the gold-block labelling (to match the syphon-tops) is artistic and effective. The bottled drinks of the latter firm include orange champagne, Brighton seltzer, lime-juice, and ginger ale.

The BELFAST MINERAL-WATER COMPANY (LIMITED) also attract attention. SCHWEPPES (LIMITED) have a handsome oak case with a full complement of their bottled products. By the way, the Exhibition restaurant-price for a bottle of Schweppes' lemonade is 50c. per bottle, which is a trifle less than hotels charge for it in England. AËRATORS (LIMITED) illustrate effectively the portable method of aëration by means of a pretty little "Sparklet" exhibit and a profusion of explanatory literature. The different varieties of "Sparklet" bottles are shown, besides the tablet accompaniments to make flavoured drinks.

The show of MELLIN'S FOOD (LIMITED) is surmounted by a model of the infant in the bulrushes sucking contentedly at a "titty-bottle" filled with a preparation of Mellin's food. The specialities of the firm are all represented.

Seeds, spices, pickles, and so forth are shown in an engaging manner by Mr. J. EDMUNDS, Barnsbury, N. In glass jars are displayed good samples of cochineal, ginger, cardamoms, black pepper, cinnamon, and nutmegs, being ingredients used in making curry-powder. There are also several species of chillies and fennel, celery-seed, cassia, and caraway.

The ROYAL AGRICULTURAL SOCIETY OF ENGLAND have a display of dried specimens of grains, and there is a graphic demonstration of all the agricultural researches conducted during fifty-seven years at Rothamstead by Sir J. Bennet Lawes and Sir J. Henry Gilbert.

AUSTRIA-HUNGARY.

The sugar-making and sugar-refining industry bulks largely in the Austrian section. There are various sugar-refining exhibits, some of them exceptionally intricate and all of them complete, not only in the display of crude and refined products, but also in demonstration of the process of manufacture and the scientific instruments and chemicals used in testing for purity. One firm have a retrospective collection of models on view showing the old styles of manufacture, and another of capacious dimensions has a section dealing with the cultivation of beet and a complete collection of the insects which infest the root. The bacteria of beet are separately dealt with. The exhibit includes a fine series of sugars and sugar-manufacturers' by-products—syrup, molasses, burnt sugar, and alcohol. An interesting collection is sent from the sugar-museum of the Polytechnic School at Prague.

Austria-Hungary is one of the most advanced countries in the world in regard to scientific agriculture and viticulture, and the scientific supervision extends to preparations of food for the table. We observed from pictures exhibited that the official syndicate of restaurant-keepers and wine-merchants in Vienna have a training-college. Besides the pictures are shown examples of materials, including a bottle of flowers used for sophisticating saffron. In the Austrian section there is also a good space devoted to veterinary medicine, which includes anatomical specimens of parts of animals. A portion of the case contains a collection of bacteriological cultures and microscopic slides. A complete system of farriery, with innumerable illustrations, completes the collection.

Hungary has her own show, and it closely resembles the Austrian—sugar and wine being the food-staples represented, but cereals run both hard. Here, again, the insects which affect the plants are splendidly illustrated. M. SONENFELD, of Sásvár, appropriates a corner of the Hungarian Court to a large display of the herbs of the fie
It is strange to see the familiar chamomiles in imme
sacks acting as battlements for the garrison of remed
within. Herbs such as the poppy, stramonium, and mall
are in neat bundles. Roots like belladonna, alkanet, bist
and dandelion are in glass jars, and so are the flowe
millefoil and verbascum. The seeds, including the mustar
peppers, cardamoms, castor-oil, henbane, and a multit
of others, are all set out in a circular case divided i
wedge-shaped apartments. Models of immense chamomi
flowers are used for adornment, and packed tea seems
be a side-line.

The Hungarian Aliment Section is strong in mineral wat
The most impressive shows are made by ANDREAS S
LEHNER, of Budapest, with their stand of Hunyadi Ján
and the APOLLINARIS COMPANY (LIMITED), who show Aper
An abundance of advertising literature is evident here, a
a much-appreciated novelty is the "Carte-postale" adv
tisement of the Hunyadi water. Apenta is also well bil
and effectively displayed. The waters obtained from Krapi
Töplitz, and the baths and other attractions of that Croat
health-resort are well represented by the nice exhibit of
water in bottles, by photographs, and by a neat lit
illustrated booklet. In this section also are the Szuli
Kronenquelle mineral water, the Korytniczai ferrugin
water, and Jamnica, an acidulous mineral water from Zagr

DENMARK.

This section is entirely agricultural. The AGRICULTU
COMMITTEE OF STATE have an interesting display, and
results of the cultivation of wheat and barley in the coun
are demonstrated by the ROYAL SOCIETY OF AGRICULTU
Models of Danish horses and cows and tiny model farms
set here and there. The ROYAL VETERINARY AND AG
CULTURAL INSTITUTE at Copenhagen is represented
model, and a section is devoted to the diseases of agric
tural plants, the insects which infest them, and the remed
for the parasites. The DANISH BUTTER-COLOUR COMPA
exhibit liquid and powder colourings.

FRANCE.

In the gallery at the end abutting on the Avenue de
Motte Piquet France has a notable exhibit of confection
MÉNIER, the chocolate king, has constructed a model hul
a battleship, in the inside of which is a chocolate-fact
Many shows of pharmaceutical importance are discove
here in undreamt-of corners. CAVENOU & TUR, of Mous
show liquorice-root and liquorice-juice in all its commer
forms. The root is in tiny choppings or symmetric leng
while the juice is in pellets, paste, sticks of varying dim
sions, and enormous blocks. OSCAR OFFRION, Gentilly
obviously a compressed-food expert. He has "Robur
liquid-coffee basis," and "Cafeinone, simple, double,
triple." Small black discs we found to be "Cristal-
Sucre," a combination of sweetened coffee ready for
boiling water. Pure extract of tea in 2-gramme doses s
cient for one cup is also shown, and tiny metallic tube
absinthe, somewhat like the "lady's tormentor" of Ha
stead Heath. There are also tubes of coffee (*Express*
de Rio Militaire) with sufficient in each for five cups
hommes et le Caporal"). Normandy mustard in qu
capped bottles is shown by A. BOCQUIT.

L'ECOLE PRACTIQUE D'AGRICULTURE DE SAINT-R
brighten the monotony of their potato, beet, and grain
hibit with fruit-essences. Some are peculiar. A st
coloured liquid is labelled pear brandy ("Eau de vie
poires"), and there are essences of hawthorn, gen
carrots, peaches, and cherry-honey (cérise de m

Olive oil. Marseilles, Dunkirk, and the district round
mouth of the Rhone are productive in oils
fine collection of earth and nut oil is mad
P. MARCHAND FRÈRES, of Dunkirk, while a syndicat
olive-oil merchants show a model of an oil-presser and o
machinery. The "Edible" oils come mainly from Tri
Marseilles, and Nice, ROCCA, TASSY & DE ROUX, and
SOCIÉTE HUILES D'OLIVE, of Nice, with JEANSO
LUZATTI, being the principal exhibitors of this variety.
the same gallery several oil firms have combined, and
displays are made of animal and mineral oils, fats, vasel
and so on. Stearine and cocoaline are in the same categ

A large space is taken up by the machinery used in the Schweitzer system of breadmaking. The machinery is contructed so that wheat put in at one end comes out as pale-ellow dough at the other end. A special feature is that he wheat is so cleaned and split that the outer and harder portion of the grain which contains nutritive properties is etained in the flour, the bran, however, being expelled. The machine aims at producing 100 kilos. of nutritious white bread from 100 kilos. of grain.

GERMANY.

As in other sections, Germany is well represented agriulturally, but we could discover little with a pharmaeutical flavour. The Verkauf Syndicat der Kali-Verke has a corner devoted to mineral substances, and Zeiss, of Jena, has an exhibit of scientific instruments or brewers. Part of one of the cases in the German Section f Chemical Arts and Industry has a display of "dietetic" preparations. Under this heading are included such things s soft paraffins, vaseline oil, liquid paraffin, lanoline, and the wool-fats generally; somatose, artose, nutrose, tropon, and icasin. Really, the carelessness with which some of the German classification is done is astounding.

ITALY.

Olive Oil.

Italy and olives are inseparable ideas, and, as may be conjectured, the manufacture of olive oil bulks largely in this section. The firms making exhibits of olive oil alone are legion, but the styles dopted by different manufacturers in putting up their products prevent the display becoming monotonous. Some f the most noteworthy olive-oil displays are made by C. Dessi, Sassori, who affects pretty long-necked green jars and ong narrow tins for sending out his oil; the Agricultural Company of Monte Pulciano and Siena; Valli, of Narni Umbria); G. Ottone & Son, of Genoa; Callisto Francesconi, of Lucca (nicely-capped bottles and labelled tins); T. Cesaroni, of Perouse, and Stefano Sottani, of Corato. The Riunione di Productione d' Olio d' Oliva, of Bari, ack their oil in gaudily-labelled round tins, with a spigot at he bottom and a corked spout on the top, and peculiar arthenware jars. Vittoria Lanu, of Pisa, exhibits wickered Florence flasks, "the only genuine." Figs are hown from Castellabate, and virgin honey (white and ellow) by A. Pasta, of Turin. Beeswax and ceresine are also specialities of Signor Pasta.

"Acqua di Petanz" is a natural alkaline lithia water, elonging to Professor Gius Vogler, of Udine. A bromo-odised mineral water is that of Bacedasco nel Piacenhuo, nd other brands including "Uliveto," "Porto d'Ischia," Monticchio," "St. Vincent," "Acqua Pitena," and "Acqua laudia," the latter an acidulous digestive water.

JAPAN

s profuse in geographical and geological maps. Tobacco ppears to be an important culture in Japan, and diagrams, models, and pressed plants of the various native-grown pecies of *Nicotiana Tabacum* are shown. A practical exosition of the manufacture of artificial flowers is given, nd there is a good show of tea. A characteristic of Japan s its imitation of England, and the labels, besides being in apanese and Franch, are invariably in English. The labels n a Tokio brewer's exhibit stated that the manufacturers ere the "Japan Beer Brewery Company." We believe, owever, that the Japanese lager beer is about the finest in he Exhibition, and it may yet displace Munich.

NORWAY.

In this section Mr. H. Nestlé has an exhibit of the "Viking" rand of condensed milk, which is particularly *à propos*. Mr. . Johnsen, of Christiansund, exhibits cod-liver oil and fish-lue.

In the Norwegian Pavilion, in the Rue des Nations, the roducts of the sea are predominant. There are many xhibits by cod-liver oil exporters in the gallery, chief mongst them being Peder Devold (Aalesund), C. Jordan nd T. U. Borthen (Trondhjem), S. A. Farstad and hristian Johnsen (Christiansund), and Peter Möller. he oil sent out by Mr. Borthen is in triangular-panelled bottles, or in flats with the label on the narrow edge instead of on the flat as we usually put it. A variety of fish oils is shown by A. Thorsen and P. Rieber, of Bergen. Peter Möller's show has for a centre-piece a beautifully-made model in copper of the apparatus used for extracting cod-liver oil by his patented process. We noted also some models of cod's livers, good and bad, the bad ones being of a disagreeable green colour. Oluf Holm (Aalesund) has samples of fish oils, and the Bergens Fisheri Museum contributes specimens of fish foods.

PORTUGAL.

Olive oil is retailed in champagne-bottles in Portugal and in hexagonal tins, decorated in fancy colours. Vinegar is also manufactured and sent out in squat tin jars. So we gathered from the exhibits.

RUSSIA.

It is somewhat peculiar to find Mitcham oil of peppermint obtained in Russia. One exhibitor in this section, however, Boris de Blanc, trading at Seltzo Krasnoe, in the Government of Tambou, shows four samples of oil labelled "Ol. menth. pip. Mitcham." On the same stand are specimens of the black-peppermint plant, Russian aniseeds, and Russian coriander-fruit. The last are smaller than the official fruit. There are besides numerous samples of oils of anise, absinthe, coriander, and dill. The varieties of linseed exhibited are also small in grain.

The student of climatology can spend an instructive hour in this section. Besides numerous weather-charts and maps there are several excellent models of barometers for the minute registration of atmospheric pressure, anemometers for the continuous tracing of the horizontal currents and inclinations of the atmosphere, pluviometers for automatically registering the rainfall, apparatus for registering the force and direction of wind, and numerous instruments of a like nature. There are also some fine sugar-refining exhibits. One Warsaw firm show a gigantic sugar-boiler erected on top of an iron platform, which is reached by ascending an iron staircase. The miniature flag-on-map idea is adapted by an Odessa wheat-merchant to illustrate the scope of his business. He uses the terrestrial globe, and flags with his name on them dotted at various parts in the world show whither his goods go.

SPAIN.

This section was incomplete when we visited it, and everything Spanish seemed in a hopeless muddle. The thing most approaching pharmaceutical interest which we could discover was a large bottle of ferro-quina Calisaya made by Magin Mollfulleda, of Barcelona.

SWITZERLAND

is particularly strong in milk-products. One of the largest exhibitors in this section is Mr. H. Nestlé, whose stall is continually surrounded by matronly persons of divers nationalities admiring "la bébé, la petite enfant." The cause of these maternal demonstrations is two models—one of a child sitting in a baby-chair, finger in mouth, with a tin of Nestlé's food beside it; the other a baby in cot with the fond mother bending lovingly over, with a bottle of Nestlé's food well to the fore. The quaint cow-bells and milk-carriers with which the stand is decorated add to the attraction.

A corner is appropriated by the Société Laitière des Alpes-Bernoises, for the display of sterilised milk in tins and bottles. The Bernese Alps are used as a background, and the model of a she-bear feeding her cub with a bottle is evidently a trade-mark. Big shows of chocolate and cocoa are made by Suchard and Kohler, and we discovered that Mr. Paul Brandt, pharmacien-chimiste, Geneva, had a "Cacao Lacte a la Viande," which, judging by the display, proves a useful side-line to his pharmaceutical business.

In a little corner almost concealed by a gigantic bonbon show is a quaint exhibit in the form of an ancient cupboard containing liquorice-root and liquorice-juice (Suc pur "Dac") in sizes ranging from tiny pencil thickness to a gigantic 7-lb. stick.

A model in relief of La Haute Engadine, the peaks realistically covered with snow, is used to attract visitors to investigate the merits of the baths of Ober-Engadine and the sources of various mineral waters which are found in that locality. Specimens of the bottled waters are shown—Lucius a Tarasp, Alvaneu-les-Bains, Mineralquelle Andeers, Saint-Moritz, and Passugg.

UNITED STATES.

As might well be imagined, the country of "canned goods" bulks largely in this department. Pre-eminence in point of interest, as well as in extent of area, must be given to Messrs. ARMOUR & Co., of Chicago. We are not quite certain of the number of exhibits this firm have: we counted six, but several more seemed to be cropping up after we thought that was the lot. Once upon a time a single case devoted to canned goods sufficed to contain the principal manufactures of such a firm as Armour; nowadays fresh meat and canned meat are subordinate in importance to the by-products of the slaughterhouses, for it is from these that the profits come. Now we find an entire case devoted to bone oil, bone-black, Prussian blue, carbonate of ammonia, cyanide and ferrocyanide of potassium, dried blood, nitrogenous and animal charcoals, glue, gelatin, soap, and many other things which are literally reconverted offal. Then comes a case full of Armour meat-extracts, Vigoral, soluble beef, ext. carnis et albumosi. The pepsines and other animal enzymes make another important group, while the introduction of animal medication accounts for the saving of such things as the pituitory body, thymus and thyroid glands, and ovarian substance. It is evident that a Chicago pork king is nowadays a man of the widest possible interests—one who has taken science to his aid in the most thorough manner, especially chemistry and physiology; and if commercialism is still the directing force, it is well to know that science has made competition possible by showing how the waste products can be utilised.

LIBBY, MCNEIL & LIBBY, another large beef-packing firm, show a complete model of their packing-house, with all the details, saving the smell, which make Chicago horrible. The miniature building is illuminated by 120 electric lights, "and cost $10,000 to make, sir," said the attendant gentleman in nasal English. Acidulated gelatin and gelatin (sheet, shred, and lumpy) in quantity are specialities of the ANKER MANUFACTURING COMPANY, New York. They also prepare bouillon capsules, and a novel combination called "liquid bouillon and junket" in capsules. The by-products of dairy industry provided by W. A. HALL, of Vermont, are the "Highland" brand evaporated cream, lacto egg-powder, casein paint, nutrium, casein paper-sizing, milk-sugar, Wheyn (a beverage), and Faracurd, made from skim-milk and used in baking-powders to replace eggs. The ELGIN MANUFACTURING COMPANY, of Elgin, Illinois, have a fine array of milk-testing apparatus, and the MICHIGAN CARBON-WORKS, of Detroit, own a "Keystone silver-white" and coloured shred gelatins. The A1 ROOT COMPANY, of Medina, Ohio, exhibit five samples of honey and demonstrate their methods of honey extraction, and the VERMONT CONDENSED-MILK COMPANY, of Newport, Maine, have a "Pine Tree" condensed milk. The ALASKA PACKERS' ASSOCIATION show a model of their factory, and give full details of the microscopical inspection of pork. The beef-fluid manufactured by SWIFT & Co., of Chicago, is nattily put up in white porcelain bottles with green labels. This firm also exhibit leaf-lard in tins, neatsfoot, cottonseed and lard oils, albumen, and cremol.

For Exhibitors and Visitors.

The Royal British Commission, with the co-operation of the British Chamber of Commerce in Paris, has instituted a Commercial Information Office for the free use of British exhibitors and visitors. The office is situated in the Royal Pavilion on the Quai d'Orsay; a writing-room is provided for the use of exhibitors and visitors, and information on trade-matters connected with the Exhibition will be given as far as possible. In the office there will be a comprehensive set of Customs-tariffs information as to transport by sea and land, books of reference, directories, &c., and arrangements have been made to receive letters addressed to exhibitors and their agents to care of "Commercial Information Office," British Royal Pavilion, Exposition Universelle de 1900, Quai d'Orsay, Paris.

PHOTOGRAPHIC

Photography was not invented in France, but two Frenchmen Niepce and Daguerre, soon afterwards did a lot towards laying the foundation of the modern art of photography. Wedgewood in 1802 published his method of obtaining sun-pictures on paper impregnated with a silver salt, and following up this work Niepce in 1822 discovered the sensitiveness of bitumen, a fact which led to the modern heliograph or collotype. Daguerre after experimenting on the action of light on various chemicals, joined Niepce, and together they worked out the Daguerrotype process in which an iodised silver plate was exposed in the camera and afterwards developed by the aid of mercury vapour. Photographic progress then shifted to England, when Fox Talbot invented iodised paper impregnated with a silver salt and first produced negatives. The process of printing in bichromatised gelatin is due to Alphonse Poitevin, and among other Frenchmen who have contributed to the stock of photographic knowledge the name of Durand, Negre, Placet, and Rousselon occur to us. The suburbs of Paris and Lyons are the chie centres of the production of plates and paper in France, the factories employing, it is estimated, 25,000 to 30,00 persons. The figures representing the French exports o photographic goods are not before us, but it is certain that a large import of photographic goods takes place. There ar said to be from sixty to eighty thousand amateur photographers in France and about seventy photographic societies. The industry is looked after by two syndicates, one o professional photographers and another of plate paper an apparatus makers.

The Section of Photography is situated in the Liberal Art Gallery in the same building as the Chemical Industry Section, but at the Eiffel Tower end. Photography is dovetailed with musical instruments and educational exhibits, s that it is necessary to traverse many galleries before th visitor bent on seeing the photographic section will hav finished his itinerary. Each country has a section devote to technical photographs and portraits.

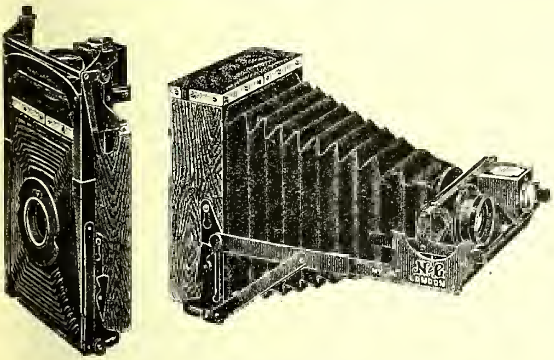
The British section is small, but fairly representative, as i seems to contain examples of many well-known picture which will be familiar to frequenters of photographic exhibitions and salons in this country. In the Scientifi Section we noticed astronomical photographs by Sir Willian Abney, Professor C. V. Boy's photographs of flying bullets Mr. F. H. Glew's photographs of lightning and radiographs Mr. Spitter's photo-micrographs, Mr. Mackenzie-Davidson' radiographs, and Sir W. Roberts-Austen's photographs o sections of metals.

The French show of photographs is very extensive, th greater part of those by amateurs being shown by the Photo Club de Paris. In French portraiture there are some darin exhibits, but we often noticed an excessive amount o retouching, which gave some of the faces a wooden an expressionless appearance. The United States section i badly lit, but contains some very good exhibits of photograph many being noticeable on account of novelties in pos Austria is represented in a manner that will surprise man people. The fine display was attracting much attention a the time of our visit.

Chemicals. In the exhibit of the combined German firm in the chemical industry section there is complete collection of photographic developers, includin rodinal and diphenol, the two liquid developers. The SOCIÉT ANONYME DES PLAQUES ET PAPIERS PHOTOGRAPHIQU LUMIÈRE ET SES FILS have the largest exhibit in th French section. It takes the form of a square room with cas at each corner, the wall-spaces being filled with transparenci and negatives illuminated from the outside so as to show th qualities of their plates. Among them are some exceller photographs in colours by the Lippmann process, but wheth they represent the originals or not we cannot say; they see to have a somewhat unusual brilliancy of colour. Th

Diamidophenol developer is apparently the specialty with this firm just now. They formula they give for the developer is diamidophenol 5 grammes, sodium sulphite anhydrous 20 grammes, water 1,000 c.c. When developing paper a small quantity of potassium bromide is necessary. The fixing bath used, said to keep definitely, is sodium hyposulphite 200 grammes, sodium bisulphite 10 grammes, alum 2 grammes, water 1,000 c.c. M. MERCIER has a small exhibit of developers and toning baths with examples showing the effects produced by different toning baths. Osmium toning yields bluish and brown tints, platinum toning cold grey, palladium toning, brown to grey and iridium toning warmer brown. We noticed a developer which has mixed with it a proportion of eosin, the object seeming to be to make a red developer, and so additionally protect the plate from light during development Several firms were exhibiting developers tinted red—a hint for photographic chemists in this country. M. TARGET is exhibiting chloride of gold. It is put up in one gramme stoppered bottles, a method we are not accustomed to in this country. The chloride of gold is in lumps and of two kinds, yellow and brown. MM. DUPLESSY & HINQUE are exhibiting fine chemicals for photography. Chloride of gold is shown containing percentages of gold varying from 30 to 40. There is here a pretty specimen of platinocyanide of strontium of a rose colour and a chloro-iridiate of soda, a coal-black salt which we understand is used in iridium toning.

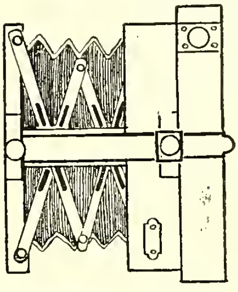
Apparatus. The exhibitors of photographic apparatus in the British Section are Messrs. J. H. DALLMEYER, Newman Street, London, W.; Messrs. ROSS (LIMITED), New Bond Street, London; Messrs. NEWMAN & GUARDIA, Shaftesbury Avenue, W.C.; and Messrs. WATSON & SONS, High Holborn, London, W.C. Messrs. WATSON have the unenviable notoriety of having had one of their cameras stolen from their case in the Exhibition. The thieves cut a piece out of the woodwork at the back of the case and selected a beautiful little folding hand-camera, omitting, however, to take any dark-slides. Messrs. ROSS'S exhibit contains specimens of all the lenses they make, including two new series of symmetric anastigmat lenses. The prismatic binocular-glasses which have been recently noticed in the *C. & D.* are shown in great variety. The latest style has either brown-calf or brown-crocodile leather covering to the body of the field-glass. Messrs. DALLMEYER'S exhibit is of lenses and cameras. These include the telephotographic lens and the Dallmeyer and Sanderson cameras. Messrs. NEWMAN & GUARDIA have a new camera, "The Nydia," shown in the illustration. The camera is a beautifully made apparatus and opens in a perfectly easy manner.



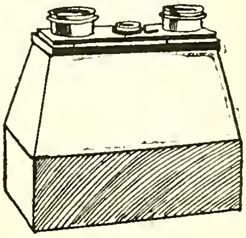
NYDIA CAMERA.

In the United States Section the exhibitors of apparatus are the BAUSCH & LOMB OPTICAL COMPANY, whose great speciality is the shutter that bears their name; the NEPERA CHEMICAL COMPANY (velox paper); and the EASTMAN KODAK COMPANY. The Eastman Kodak Company have got a new phrase, "Ne sortez jamais à bicyclette sans emporter un Kodak." Perhaps this is a French version of "Press the button, we do the rest"; anyway, plenty of Kodaks adapted for carrying on bicycles are shown. In a distant part of the Exhibition we came across an exhibit of the Manhattan Optical Company which included cameras.

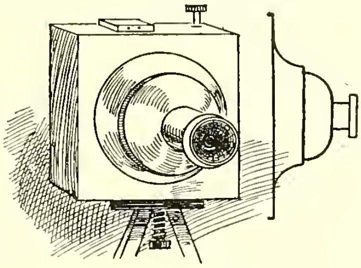
In the French Section the following are some of the novelties we noticed:—"Le Physiographe," a small hand-camera, whose chief attraction seems to be that it takes a photograph at right angles to the direction you appear to be looking. This is managed by means of a prism. The COMPAGNIE FRANÇAISE DE PHOTOGRAPHIE show a metal camera called "Le Photosphere," which has the front portion dome-shaped and made of one piece of metal. The sketch shows the type of camera. In France the favourite hand-camera is the Jumelle or field-glass pattern. Most of the French firms show examples of this type. The box hand-cameras in use are generally finished with a grey-cloth cover. Cameras got up for presentation make another feature of the French exhibits. Examples are made of black wood and have silver-plated fittings; and others are covered with green crocodile or lizard skin and have gilt fittings. Brown leather covered hand-cameras are fairly common among the exhibitors. CLEMENT & GILMER have an apparatus called "Le Nodark," which takes a photograph, develops it, and delivers it in three minutes; the photograph is of the tin-type class. A. CADOT has hand-cameras of the box form, but the sides cut away and bellows are used, the claim being that a lighter camera resulted. The camera may be covered in the usual outer case when necessary.



DELBOSQUE'S CAMERA.

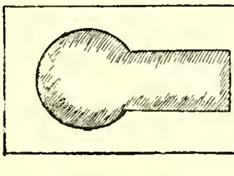


JUMELLE CAMERA.

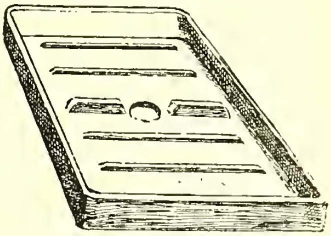


LE PHOTOSPHERE.

There are a good many firms exhibiting lenses, such as CLEMENT & GILMER, DARLOT-TURILLON, DEROGY, LACOUR, ROUSSEL, and SERMAISSE. ROUSSEL claims to make lenses of crystal. DUCHON has an apparatus, called "Le Genie," for automatically changing the slides in an optical lantern. An arrangement of springs presses a slide in position, on turning a handle, and disposes of the used slide. The same principle has been applied to the stereoscope. This exhibitor also has a washing-bath for prints, in which the prints are suspended by means of clips. It is especially for use with tender surfaced papers. HACHÉE is showing burnishers and print-cutters. One of the burnishers is furnished with a thermometer, so that the user can tell when the roller has reached the proper temperature for burnishing. A new photographic dish is shown by DELBOSQUE; it has two projections on the



VIEW VIGNETTER.



ROCKING PLATE-DISH.

inner surface of the bottom of the dish so as to facilitate rocking the plate, but would need a larger quantity of solution to cover the plate. Funnels labelled with the name of the solution they are to be used for are shown, which seems an extension of the idea of labelling developing and fixing dishes. Another good idea is a thick plate-glass graduated ruler for measuring off photographs when trimming. A camera made by this firm, with a scissors expanding arrangement to keep the camera quite rigid, is shown in the illustration. The advantages of a transparent ruler are obvious, and the thickness of the ruler prevents it from readily being broken. Another firm, **Duploich**, make a speciality of glass baths, with optically-worked and exactly parallel sides for orthochromatic solutions. Blue glass for glazing studio-windows is a feature of another exhibit; the tint of the glass is only faint, but in an apparatus for taking photographs with magnesium the flame-chamber is in blue glass, which, it is claimed, produces a softer light that is less distressing to the sitter. Another exhibitor (**Lehmann**) is showing photographic dishes of nickel and a squeezee which has the handle bent nearly at right angles. **O'Ludwik** is showing celluloid masks for vignetting purposes in a great variety of sizes and shapes. There are some new shapes for views, one of which is shown in the sketch; other forms have the openings towards the corner—a convenient arrangement when printing picture postcards.

German photographic apparatus is represented by **C. P. Goerz** (Berlin), who shows his anastigmat lenses and the Goerz-Anschütz camera—a camera much in evidence amongst photographers at the exhibition; **Fabrique d'Appareils Photographique** (Dresden), **Steinheil** (Munich), the **Société Anonyme Erremann** (Dresden), and **Zeiss** (Jena).

Other countries confine their photographic exhibits entirely to photographs.

X-Rays. Radiography is not represented to the extent one might have expected. Messrs. **Watson** in the British Section show coils; but in the French Surgical-instrument Section there are some half-dozen exhibitors of this class of apparatus. The apparatus shown does not attract attention on account of any novelties, and is not in our opinion of such quality as one may see any day at the showrooms of British makers. M. **Contremoulins** exhibits a localising apparatus of rather complicated design, but which, judging by radiographs and photographs shown near by, gives good results. At the exhibit of MM. **Radiguet et Massicot** we saw a little apparatus for determining the axis of a focus tube, from the *x*-rays given off. Static machines for *x*-ray work are shown by **E. Pilot**.

RETROSPECTIVE

Not the least interesting part of the Exposition are the portions devoted to the retrospective aspects of the various industries. In the Chemical Industry Section, for example, there is an extremely absorbing museum got together by the French Chemical Society, which forms a complete history of chemical progress in France during the last century. One of the earliest exhibits in point of date, and which was included owing to its important bearing on nineteenth-century chemistry, is that dealing with the work of Lavoisier from 1743 to 1794. There are present in the case the large chemical-balance constantly used by Lavoisier, besides numerous globes, flasks, and test-tubes, and the microscope said to have been used by that celebrated chemist. Continuing in order round the museum, we come to the apparatus used by Gay-Lussac, Thénard, Chevreul, and Regnault. Then we go on to more interesting reminiscences of Pelletier, Roliquet, Berthier, and Ballard. In the latter case there is a curious little bromine-pipette constructed by Ballard. Berthier, who lived from 1782 to 1861, has a long list of works placed to his credit, showing that he lived his long life to advantage. Passing on, we come to relics of Fremy, Perret, and Pelouze and to a special exhibit by M. **Berthelot**. Glancing at a case containing reminiscences of Pasteur, we note Dumas's balance in passing, and pause for a moment before relics of Schlessing, in connection with his researches on ammonia and nitric acid. M. **Jungfleisch**, of the Paris School of Pharmacy, has an interesting little exhibit, and Raoult's tonometer—the first instrument constructed for measuring vapour-tensions at high temperature—and the same inventor's first apparatus for cryoscopy, are to be seen. There are also exhibits displayed by M. **Bertrand**, of the Exposition Lyonnaise, and a good show of chemical-apparatus from the **Bourbonne Laboratory of Chemistry**. In the Sorbonne cases are the original apparatus as designed by Deville and Troost for their high-temperature and vapour-density work; also the apparatus Debroy designed for his dissociation-experiments; and that used by Dumas for determining vapour-density.

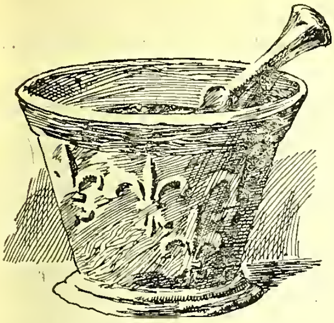
The **Faculty of Medicine** has a case showing the derivatives of glycerin, and such things as anemonine and the chloraloses. M. **Moissan** has a saucer full of artificial diamonds, which are only disappointing as regards their size. **Fremy & Verneuil** exhibit some of their artificial rubies. Besides all these, in separate cases, are chemicals prepared by Gerhardt, Cahours, Schreurer-Kestner, and Schutzenberger, making the whole one of the most interesting exhibits from an historical point of view it is possible to imagine.

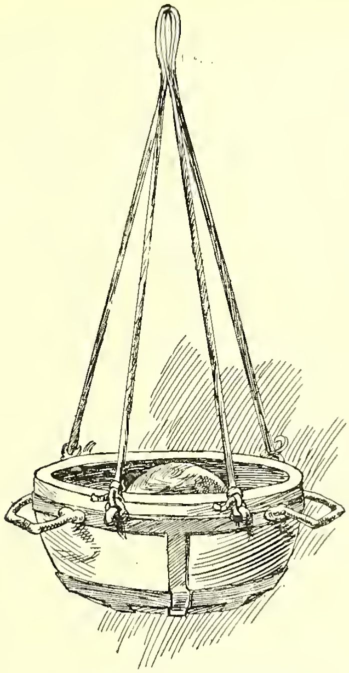
In the French Pharmacy Section there are two show-cases containing pharmacy jars. M. **Legros** has sixteen specimens, some of them very perfect in point of preservation. They are mostly blue and white Delft. The firm of **Chapireau**, whose cachets are well known, have twenty-six old pharmacy jars at the back of their exhibit.

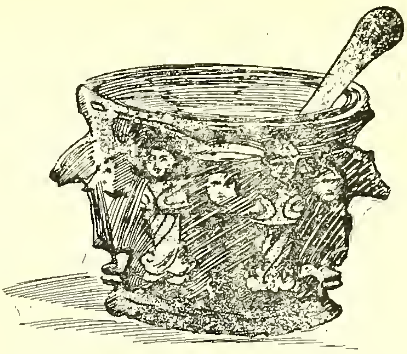
In the gallery of the Aliments Section there is a collection of infants' feeding-bottles (biberons) exhibited by the **Assistance Publique**, which are probably unique. The collection begins with some Roman feeders like those figured in The Chemist and Druggist some time back in the possession of Mr. Ransom, of Hitchin, and goes down to mediæval and eighteenth-century specimens. The mediæval specimens are of earthenware, those of later date of pewter, tin, or glass. The earthenware feeding-bottles resemble in decoration the pharmacy pots shown in The Chemist and Druggist Winter Number, some being in blue and white and others in colours. The metal ones had a piece of moist and sweetened linen tied round the teat before they were given to the child.

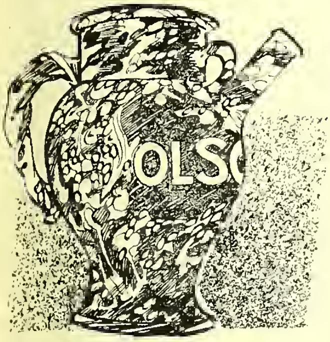
Not far from this collection of biberons are some cases containing examples of pharmacy jars, from which we have selected one unusually decorated; it is in blue and white. In metal mortars, the moulds of which, dated 1443, are still extant, shown in another case there are several highly-ornate specimens; we reproduce two of these belonging to the Hospice Côte d'Or de Beaune. The pestle shown, which is more elaborate than such pieces of apparatus usually are, does not appear to belong to any of the mortars shown, but is unique in ornamentation. The history of these mortars being well known, it is certain they have always been used in pharmaceutical operations, and did not form part of the apparatus of the culinary department of a nobleman's household.

On the ground-floor of the Aliment Section there are some reproductions of domestic offices. One represents the kitchen and brew-house of the Marquis d'Uxelles, from which we took a sketch of an old powdering-apparatus. It was used, we understand, for grinding cocoa-beans for the purpose of making chocolate. As will be seen, the apparatus is suspended from the ceiling and the powdering done by means of a heavy cannon-ball, which was rolled round the mortar. It took, most likely, two men to work it. In the brew-house portion of this same exhibit there are many old forms of wine-bottles, most of them in glass of the hand-blown variety, which may still be met with in country-districts of Great Britain. One of these, and another made of copper, we figure. The copper bottle is one of many. It would be interesting to know the condition of the interior of these metal bottles after a few years' use. In the reproduced kitchen we noticed several pharmacy-pots, some, it is true, labelled "Moutarde" and "Tabac," whilst others have

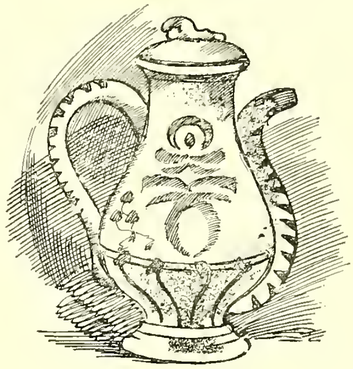

Mortar with Fleur de Lys.

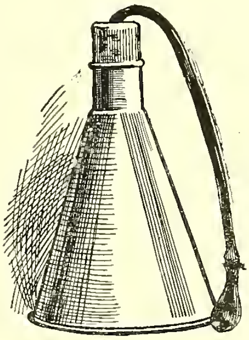

Ancient Powdering Apparatus.

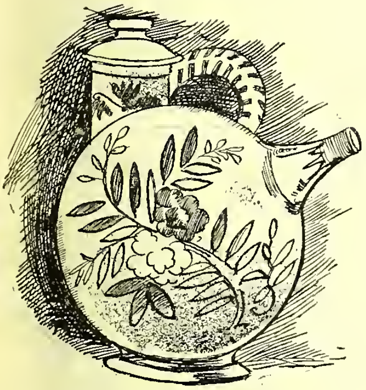

Old Hospital Mortar.

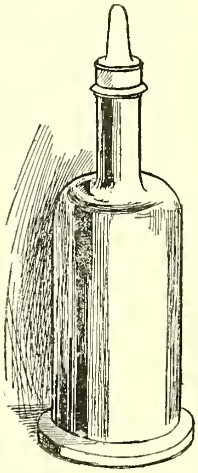


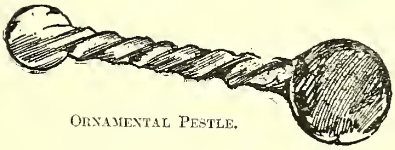
Pharmacy Vase.

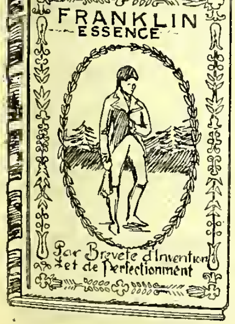

Earthenware Biberon.

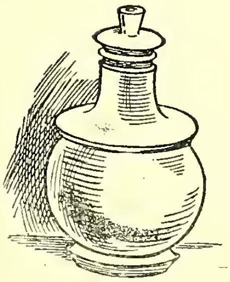

Tin Biberon.

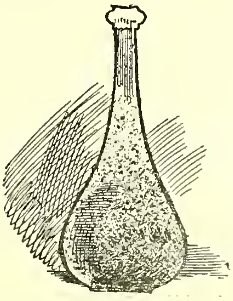

Earthenware Biberon.

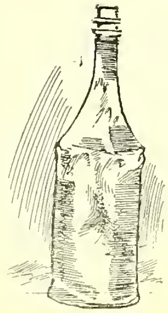

Pewter Biberon.


Ornamental Pestle.


FRANKLIN
ESSENCE
Par Brevete d'Invention et de Perfectionnment
Book-bottle.


Pewter Biberon.


Blown Glass Wine-bottle.


Copper Bottle.

pharmaceutical names on them which hardly entitle them to a place in a kitchen. They most probably belong to a dispensary. The specimen of a book-bottle is shown in one of the cases near the French Mint exhibit. It is labelled "Franklin Essence," and is the type of the present day pocket-flask.

Germany also has an interesting historical collection. The exhibit is a complete array of the industrial products discovered by German chemists during the nineteenth century, and puts as forcibly as possible the way in which science has, in Germany, been made to work hand in hand with commerce.

SORTIE.

Now the parting's near, but we shed no tear,
For we feel footsore and weary,
And our grief is blent with a calm content,
For it grows just a trifle dreary.

So we waste no woe on the "Château d'Eau,"
Nor sigh for the bands or the "moulins,"
But we close the book with a last fond look
From the heights of the "Trottoir Roulant."

Half an Hour with an Exhibition Jury.

By an Exhibitor at Paris.

I OFTEN wondered in the days of my youth, and even much later on in life, by what process the gorgeous medals in gold, silver, and bronze which adorn the windows of manufacturing firms and the labels on bottles of pharmaceutical proprietaries were adjudicated and distributed.

I imagined a body of superior beings, stern as Rhadamanthus, omniscient as an encyclopædia, who examined and tested for long weary days and sleepless nights, by the midday sun and the midnight oil, by all means that science could afford or human ingenuity devise, the intrinsic merits of Blank's pain-cure and No-man's mustard, who then met in solemn and secret conclave, and, after lengthy discussion, drew up the list of candidates without fear, favour, or affection.

Our youthful illusions are destined to disappear one by one. I had heard much as years went on, but never till this year had I seen an International Exhibition jury collectively in the flesh and on the warpath.

"You can come and see us? Why, certainly," said a popular pharmacist. "Of course we rely on the well-known *C. & D.* discretion not to publish in advance a list of awards."

The flattery was too delicate not to be successful. The hour fixed was 9.30, the place Class 87 (Chemical and Pharmaceutical Industries). It may be safely affirmed that not many persons who pass along the French Chemical Section in the gallery notice the jury-office cunningly contrived by the architect, and masked by an innocent-looking exhibit of borax. Yet, when the blue curtains are lifted, a goodly room comes to view, large enough to accommodate twenty-five or thirty persons. A large table covered with blue and surrounded with official-looking chairs, bears a formidable array of inkpots and papers. Hard by is a comfortable sofa-like seat, where the wearied jurymen may repose. All is blue—is it not the colour of Hope?* At present twenty odd members have turned up, and discussion is going on. Outside Exhibition attendants in blue and red uniforms await the behests of MM. les Jurés. The discussion terminates, and they sally forth one by one, chatting, joking—I even notice cigarettes. Has not M. Picard sternly forbidden the innocent weed in the Exhibition? But these are MM. les Jurés!

Before entering the Chemical Section I follow one who has some business in the English Perfumery Court. I am loth to have to refuse the palm to pharmacy, but the perfumery jury—which, by the way, is just going round the English Section—wins easily so far as the other man is concerned. Doubtless by some unwritten law no physical imperfections are admitted in a perfumery jury. How glossy are their "huit-reflet" top-hats, how well-fitting their spotless black, how shiny their elegant foot-gear, how perfect the curls of their moustaches and silky beards. There is an English juryman who is naturally acting as a sort of interpreter-cicerone in this section—the youngest (he seems)—the "jeune premier" of the jury.

Over the way—alas! that pharmacy practice should sometimes apparently be incompatible with a healthy life—there are backs that stoop and eyes hidden under blue spectacles, "corporations" that tell of a too sedentary life, frock-coats that bulge and trousers guiltless of the crease of newness. Yet these are men in high positions. M. Astier has—tell it not in Gath—a straw hat; ex-Professor Riche, of the School of Pharmacy, who leads the jury round the German Chemical Section, has no hat at all, an example followed by tall and portly Dr. Witt, who does the honours of the German Section. These are only general remarks, for some, of course, are as elegant as perfumers.

"You must not stay here, sir; move on, if you please," reiterates the two attendants of the English Section to the passers-by attracted by the perfumery jury's elegance, and the odour from open bottles. Thus free the jury approaches a soap-stand. The proprietor (or attendant) has his boxes out on a small table all ready. "No. 100 on catalogue, Mr. Blank," announces the English leader, and the jury search their catalogues and find the number. They tear off the papers, they sniff, and ask a few courteous questions. "Yes, he has had silver and gold medals already; here are the dates."

Many jurymen take pencil notes on the margin of their catalogues or on note-paper. There is the zealous juryman who compares several specimens; the chatty juryman who asks how many men are employed at the soapworks, and how many hours they work a week; the scribbling juryman who notes every detail and the bored juryman who turns his back on the whole performance and regards the opposite gallery.

And their remarks? "No," as the Irishman said, "the lips of my pen are sealed in this matter." Let the jurymen bear witness that journalistic discretion is not yet dead in the English Press.

In the German Chemical Section a couple of chairs with a long string between keep out the public. But it is 11.30, and jurymen are but mortal. They sniff *déjeuner* afar off, and "fold their tents like the Arabs" (or rather their catalogues) "and as silently steal away." Professor Riche shakes hands with Dr. Witt, and I am alone in the German Chemical Section.

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* Hope of gold medals, of course.

Trade-Marks Applied For.

Objections to the registration of any of the undermentioned applications should be lodged with C. N. Dalton, Esq., C.B., Comptroller-General of Patents, Designs, and Trade-marks, at the Patent Office, 25 Southampton Buildings, Chancery Lane, London, W.C., within one month of the dates mentioned. The objection must be stated on Trade-marks Form J, cost 1*l*., obtainable through any money-order office.

(*From the "Trade Marks Journal," June* 13, 1900.)

Device of circular tin and flames; for chemical substances. By Spiritine (Limited), 5 Carteret Street, S.W. 229,908.

"Yekko Pleasure," and wording; for liniment. By Bracher & Co., 459 Battersea Park Road, S.W. 227,336.

"Antispore"; for a medicinal preparation. By H. N. Warren 18 Albion Street, Liverpool. 229,278

"Hazeline" (no claim for "Hazel"); for goods in Classes 3 an 48. By Burroughs, Wellcome & Co., Snow Hill Building E.C. 230,425.

"Visto"; for surgical stockings, &c. By H. Farmer, 141 Nort Street, Brighton. 229,871.

"Elixirine" (no claim for "Elixir"); for a hair-producer. B H. & M. Rayne, 115 Waterloo Road, London. 229,336.

(*From the "Trade Marks Journal," June* 20, 1900).

"Sparklets"; for chemical substances. By Aërators (Limited 56 Broad Street Avenue, E.C.

"Hygon"; chemical substance for testing water. By th Formalin Hygienic Company (Limited), 9 and 10 St. Mary-a Hill, E.C. 230,762.

"Pecto"; for chemical substances. By the Columbia Optic and Camera Company, 42 Goswell Road, E.C. 231,044.

Legal Reports.

High Court Cases.

Saccharin Corporation *v.* R. Reitmeyer & Co.

In the Chancery Division on June 22, Mr. Justice Cozens-Hardy commenced the trial of this action, which is brought by the plaintiffs for an injunction restraining the defendants from importing into this country, and from manufacturing, supplying, and using in this country, saccharin manufactured according to Monnet's patent 25,275 of 1894, and from infringing the plaintiffs' rights in respect of that patent. The usual further incidental relief is also claimed. The plaintiffs complain that the defendants sold in this country for importation into this country certain saccharin to the Chemical and Drugs Company (Limited), of 7 Hope Street, Manchester, and they also alleged that in July, 1897, the defendants sold and delivered to Bratby & Hinchcliffe, Ancoats, Manchester, certain quantities of saccharin.

Mr. Moulton, Q.C., and Mr. J. C. Graham appeared for the plaintiffs; Sir Robert Cecil, Q.C., Mr. A. J. Walter, and Mr. Bucknill represented the defendants.

In opening the case, Mr. Moulton said the peculiarity of it was that, in an action against the Anglo-Continental Company, of which Mr. Reitmeyer was the managing-director, on the same patent the plaintiffs had recovered judgment, and an injunction had been granted. The only questions now were whether there had or had not been infringement, and whether the defendant was the person who sold.

The defence was a denial of infringement.

At this stage the hearing was adjourned, and was resumed this week, Mr. Justice Cozens-Hardy on Wednesday reserving judgment.

"Formalin" as a Trade-mark.

In the Chancery Division of the High Courts of Justice on June 26, before Mr. Justice Farwell, the application of the Formalin Hygienic Company for the registration of trade-mark No. 215,816 came on for hearing by way of motion.

Mr. Hughes, Q.C. (for the company), in opening the motion, said that the application was for the registration of the word "Formalin" as a trade-mark, and was made on July 25, 1898. On May 4, 1899, the Controller or Registrar informed the company that on certain information which he had received he thought "Formalin" was not a word which could be registered. Further argument took place, and on May 18, 1899, the application was refused by the Controller. On July 3 the applicants appealed to the Board of Trade under Section 52 of the Act. In that Act there was a further section providing that the Board of Trade might refer the matter to the Court, which they did, and the matter now came before his Lordship for determination. The applicants asked the Court that the decision of the Controller should be reversed, and that he be directed to proceed to registration of the trade-mark. Proceeding, Mr. Hughes explained that formalin was a 40-per-cent. solution of formic aldehyde. The preparation was discovered by Schering, and by a German company, by whom it had since been manufactured. In 1893 Schering invented the name "Formalin," which had not formerly been used, and in 1894 the word was registered in Germany as a trade-mark on the ground that it was an invented word. One point which had been taken by the Controller was that in 1893, Mr. Sidney Pitt, on a communication from the German company, applied for a patent for "Formalin" as a new antiseptic-preparation It was No. 7,038 of 1893, and so it was held by the Controller as a patented preparation, and therefore could not be registered. But that patent was of no effect whatever, because before that time other people had been manufacturing this 40-per-cent. solution of formic aldehyde.

Mr. Ingle Joyce (for the Registrar of Trade-marks): There is no evidence to that effect.

Mr. Hughes said there was. The article had been made and used, but not sold under the name "Formalin" except by his clients, or the German company they represented.

His Lordship: What is the invention you claimed?

Mr. Hughes replied that it was not a claim for the process but for a new antiseptic. But no attempt had been made to enforce a monopoly of its preparation. The name "Formalin" had also been applied to preparations other than the 40-per-cent. solution—that was to say, to solids and other variations of the same substance, and even to goods of a different nature, but used in connection with it—for instance, to "Formalin lamps." After detailing how the Formalin Hygienic Company had become the sole agents for the German company for Great Britain, the Colonies, China, and Japan, Mr. Hughes said he proposed to show that "Formalin" was an invented word within the meaning of the Trade-marks Act, and that it had not been used except by his clients and the German company. He proceeded to read the affidavit of Mr. Zimmerman, who from 1875 until the formation of the Formalin Hygienic Company, acted in London as the representative of the German company, and who stated that in 1893 Mr. Schering invented the word in question. It was a word having no meaning except in connection with Schering's preparations. The name was used for other articles besides the solution, such as "Formalin soap," "Formalin powder," and others. Dr. Francis Passmore, a well-known chemist, in his affidavit said he was not aware of any manufacturers supplying the article except under other names. The word "Formalin" would have no meaning at all apart from its application to Schering's preparations. The word "Formalin" *per se* would convey no information. He had used the 40-per-cent. solution and bought it as formic aldehyde. The term "Formalin" would not of itself suggest any antiseptic quality in the preparation.

Dr. Passmore was called and cross-examined by the Attorney-General. Being shown a volume by Brothers on "Photography, its history, progress, apparatus, and materials," and his attention directed to a particular passage, he said he found that the formula of "Formalin" as given there was CH_2O.

The Attorney-General: Is it not the case that "Formalin" is the trade-name of a 40-per-cent. solution of formic aldehyde?

Dr. Passmore: Yes, as made by Schering. It is only so for one particular maker. In answer to further questions, Dr. Passmore said that if he asked for "Formalin" he should expect to get Schering's manufacture. It was true that the specification for the patent of 1893 used "Formalin" throughout as the 40-per-cent. solution, but the specification was evidently written from Schering's instructions. Nobody else had previously called it "Formalin."

The Attorney-General: Does not Schering use the word as the name of the substance?

Dr. Passmore replied that was so, but that was the first time formic aldehyde had ever been called "Formalin."

His Lordship pointed out that the volume on photography was a second edition, published in 1899. If the first edition was published before 1893 and contained the passage quoted, that would be a difficulty.

Mr. Hughes admitted that it would be a difficulty for his clients. He went on to read further affidavits from practical chemists, who stated that the term "Formalin" was well known in the trade as representing Schering's preparations.

On behalf of the Registrar, affidavit-evidence was read by Mr. Ingle Joyce, tending to show that the word "Formalin" had long been known as and was used to describe the 40-per-cent. solution, and that the company making this application had been formed to take over the patent already existing.

His Lordship remarked that the word "Formalin" seemed to have got into the specification and into many books and articles. Nor was the company applying as agents for Schering, but as assignees, and had produced no evidence of assignment, and he could not treat the company as Schering without such evidence.

The Attorney-General contended that the applicants had no title, as they did not manufacture, but only sold formalin as agents, and because the term "Formalin" was not exclusively used for the substance manufactured by the Chemische Fabrik auf Atkien, the German company in question, but was descriptive of an article consisting of a solution of formic aldehyde.

His Lordship said that both the objections seemed to him fatal to the case for the applicants. The Formalin Hygienic Company not only did not manufacture the product called

"Formalin," but they had no right to manufacture it under their agreement with the German company in 1897. They had therefore no title to have the word registered as their trade-mark. But even on the evidence which had been put before him he was convinced that the word "Formalin" was descriptive, and was not used, either by scientists or by the trade, to designate the article manufactured by any particular person. He therefore sustained the decision of the Controller.

The application was accordingly dismissed, with costs.

SHARP BROTHERS' SOAP AND PERFUMERY COMPANY (LIMITED).

In the Chancery Division of the High Court of Justice on June 26, Mr. Justice Cozens-Hardy had before him a petition presented by J. and P. Cowan for a compulsory winding-up of this company. Mr. Alexander, Q.C., said that the petitioners were creditors on a dishonoured bill of exchange for 76*l*., and the petition was supported by creditors for 1,956*l*. In opposition to the petition were the company and debenture-holders for 3,000*l*. and 2,200*l*. The petitioners challenged the validity of these debentures.

Mr. W. H. Cozens-Hardy for the debenture-holders, stated that there was no allegation of the voluntary winding-up in the petition, and no allegation that the petitioners would be prejudiced by the voluntary winding-up.

Mr. Chester, for the company, said the company had gone into voluntary liquidation and a receiver had been appointed by the largest debenture-holder. There had been many attempts to sell the property as a going-concern and he believed they would be successful, but he opposed a compulsory-order.

Mr. Alexander would not consent to a supervision-order.

Mr. Curtis Price and Mr. R. J. Parker, for creditors, thought a supervision-order would be amply sufficient.

Mr. Justice Cozens-Hardy said the opponents of the petition had a right to reply to the affidavits, and the petition must stand over until July 10.

PEARSE'S LINIMENT (PRELIMINARY) SYNDICATE (LIMITED).

A COMPULSORY-ORDER for the winding-up of this company was made by Mr. Justice Cozens-Hardy on June 26, on an unopposed petition by a creditor holding a bill of exchange for 110*l*. which had been endorsed by the company. Counsel said the liniment was devoted to noble objects. The "Preliminary" syndicate was meant to be the parent of many companies, but, like many other parents, it did not have the offspring for which it hoped. (Laughter.)

THE VIMBOS APPEAL.

In the Court of Appeal on June 26, before the Master of the Rolls and Lords Justices Rigby and Collins, the case of Vimbos (Limited), was heard on appeal by the company from an order of Mr. Justice Wright, who had declined to make a declaration that a Mr. Thomas Ovens was a shareholder of the company in respect of 500 shares. The appellants' case rested upon documents which they contended were sufficient to establish a contract between the company and Mr. Ovens, by which the latter agreed to take the shares in question. The respondents denied that there was any price offered and further said that if such an offer had been made it had not been accepted by the company. The Master of the Rolls in giving judgment said he did not think it possible to hold on the evidence before them that there had been a clear offer to take 500 shares on the part of Ovens. He did not go so far as to say the case was perfectly clear, but he could not say Mr. Justice Wright was wrong on the facts, and the appeal would therefore be dismissed with costs. Lords Justices Rigby and Collins concurred.

OPPENHEIMER *v.* THE ANGLO-CONTINENTAL GOLD SYNDICATE (LIMITED).

This was an action before Mr. Justice Bruce and a special jury on June 22 to recover damages for an alleged breach of a contract to give the plaintiff an agency for the sale of 2,000 tons of a mineral called monazite.

The plaintiff, Mr. George Oppenheimer, of Hildro Crescent, Camden Road, had had negotiations with th defendant company with reference to the sale of monazite a mineral containing thorium, and as a result a letter wa written to the plaintiff on behalf of the company, whic constituted a contract between himself and the defendan company. The mineral in question was used for incandescent mantles, and the plaintiff went to Germany to tr and sell it. He said that he would have been able to sell i in Germany if he had had it, but after a time the compan asked him to return, and it appeared that they never ha had the mineral in their possession at all. The plaintiff ha been paid his expenses, but he now complained of the los of profit on the sale of the mineral. The defendants sai that they had received information that there was a quantity of monazite to be had in Brazil, and it was arrange that the plaintiff should go to Germany to feel the state the market and report to the company. The company ha lost 300*l*. over the matter, and denied that there had eve been a concluded contract between themselves and th plaintiff.

After the case had been partly heard, a compromise w effected, by which the defendants agreed to increase th 250*l*. in court to 500*l*., and the plaintiff accepted this su in satisfaction of his claim.

PITKEATHLY MINERAL WATER.

In the Court of Session, Edinburgh, on Tuesday, June 2 Lord Low began hearing evidence in the action by the P keathly Wells and Mineral-water Company, Perth, agai Reid & Donald's Pitkeathly Table-water Company (Limite aërated-water manufacturers, Perth, to have the defende interdicted from selling or advertising for sale miner table, or other water not taken from the Pitkeathly Wel Bridge of Earn, Perthshire, of which the pursuers are t lessees. Pursuers state that in 1898 Dr. Henderson obtain a ninety-nine years' lease of the Pitkeathly Well, on t estate of Kilgraston, Perthshire, along with the sole a exclusive right to make use of the name "Pitkeathl either by itself or in conjunction with other words in conne tion with the manufacture, advertisement, and sale of th waters, subject to the condition that the water so sold shou contain not less than 12½ per cent. of the natural water. I Henderson entered into a contract of partnership with t other pursuers for the sale of Pitkeathly water, and th represent that Pitkeathly has long been a well-known spa Scotland, and that the name is of great value and i portance. David Donald, then sole partner of Reid & Dona was lessee of the wells from 1879 to 1898, and althou the defenders had now no right to obtain the waters fr the wells, they had continued to sell water, no portion which came from the wells, under the name of "Pitkeat Table-water and Pitkeathly-cum-Lithia," and represen that no other company had a right to prepare these wat The defenders reply that the water of the wells is not su able for table use, and was not employed by their firm in manufacture of their Pitkeathly table-waters. It was aërated by them, but they sold it to visitors at the we and to a few persons in Perth who expressly asked for A large number of witnesses were brought to prove that dealing with Reid & Donald they had always been un the impression that their Pitkeathly water was a natu mineral water and not a manufactured water. Lord Prov McGregor, Perth, spoke to having designed the label defenders' bottles; but he did not know whether th waters were natural or artificial. Mr. Rose Pentland Bl chemist, Perth, said he had long been familiar with reputation of the Pitkeathly wells. It occurred to him t he might establish a good business in aërating and bottl water from the wells, and he got a quantity sent in to by the proprietor for that purpose, and put a card in window. That was about twenty years ago. Four after he exhibited the card Mr. Donald came and told he had the sole right to aërate the waters, and that he infringing his right. He did not continue the sale a disposing of what he had. Mr. McDougald, public ana Dundee, gave the results of his analysis of the nat water and also of Reid & Donald's manufactured w His comparison was against Reid & Donald's artificial w Other witnesses having been heard, the Court then journed.

Weights and Measures Act.

UNSTAMPED SCALES AND WEIGHTS.

AT the Portsmouth Petty Sessions on June 23, before Colonels C. M. Longmore and L. Rodney, Woolmer White, trading as Timothy White Company, North Cross Street, was fined 24*s*., including costs, for having in his possession on June 7 a weighing instrument and thirteen weights which were not stamped. Mr. Davis, the Inspector, stated that the weighing-machine was rejected by him in 1898, and in 1899, when he examined it again, it was still unstamped. After examining the machine in the ironmongery department Mr. Davis went to the druggists' department and found thirteen weights produced unstamped. Mr. King, for the defence, stated that the articles were unstamped owing to the negligence of the managers of the two departments. Colonel Longmore said the Bench did not think Messrs. Timothy White would attempt to defraud the public, hence the nominal penalty.

Pharmacy Acts.

ILLEGAL SALE.

AT Linlithgow Sheriff Court on June 23, William Brownrigg, assistant in the shop of Dr. Stewart, Uphall, was charged, at the instance of the Pharmaceutical Society, with having sold a quantity of tincture of opium, and also a quantity of morphine, forming an ingredient in Budden's balsam of horehound and coltsfoot. Accused, who pleaded guilty, said he was not aware he was contravening the Act, as he was only acting under the supervision of Dr. Stewart, who was constantly about the shop. He was a registered medical student, and expected to be qualified shortly. He wrote to Mr. Bremridge explaining these things.

Mr. P. Morison, S.S.C., said the case would not have been pressed had it not been that the accused represented himself to Mr. Rutherford Hill as being a registered chemist. Mr. Hill replied to accused that there was no "Brownrigg" in Uphall on the register. The accused said the address on the register would be Liverpool. There was a person named John Brownrigg in Liverpool on the register, but on inquiry he was discovered to be a very old man. There was no other Brownrigg on the register. It was quite evident that the accused well knew that he was acting illegally when he sold these two poisons.

The Sheriff asked accused if he was any relative of John Brownrigg of Liverpool. Accused said he was his son. The Sheriff said he was inclined to impose the full penalty of 10*l*. in this case, but as both poisons were sold practically at the same time, and virtually to the same person, he thought he must regard it as really one offence, though technically two. With the consent of the prosecutor he would impose the full penalty of 5*l*. for the first offence, and admonish the accused with regard to the second. The expenses would be 1*l*. 5*s*. 6*d*., and the prosecutor was granted warrant to proceed in the event of the penalty not being paid.

Sale of Food and Drugs Act.

CAMPHORATED OIL.

AT Bradford on June 21, Joseph Holroyd, of Cleckheaton, was fined 10*s*. and costs, or ten days' imprisonment, for selling adulterated camphorated oil. Defendant's excuse was that the oil had been in stock for a considerable time, and as only small quantities were sold the camphor had evaporated.

AT Wolverhampton on June 20, William Tonkinson, grocer and provision-dealer, Stafford Road, Wolverhampton, was summoned for selling camphorated oil containing 38 per cent. of mineral oil. For the defence it was contended that the oil was purchased in 1897. The Stipendary dismissed the case on payment of costs.

BAKING-POWDER.

MARY ANN WHAPSHARE, East Harnham; Henry Witt, Broadchalke; and Wm. Penny, Broadchalke, all grocers, were summoned at Salisbury, on June 19, for selling adulterated baking-powder. In the first case, against Whapshare, the powder contained 28 per cent. of alum, and for the defence it was urged that each packet should have been divided into three parts, instead of the three packets being emptied into one lot and then divided. Defendant was fined 10*s*. and 9*s*. costs, and an appeal was intimated. In the case of Witt, the percentage of alum was 22, and a fine of 10*s*. and 7*s*. costs was imposed; in the case against Penny there was 30 per cent. of alum, and the penalty was 10*s*. and 7*s*. costs.

"GREGORY'S POWDER."

AT the Lambeth Police Court on June 22, George Baldwin, a herbalist of Walworth Road, was summoned for selling "Gregory's powder" which was found upon analysis to consist of 70 per cent. of carbonate of magnesium and 30 parts of rhubarb and ginger. The analyst appended to his certificate a note to the effect that the powder had been compounded with magnesium carbonate instead of magnesium oxide as required by the British Pharmacopœia. The defendant said it was quite a mistake. Mr. Francis (the Magistrate): What is the effect of this compound. Is it a cheaper mixture? Inspector Dawson: I believe it is, sir. Defendant: Very slightly. We always make it with oxide, but by some means or other carbonate was used by mistake. They are very similar powders, and you can hardly tell one from the other, and by some means the carbonate of magnesia got labelled "Oxide." Mr. Francis: What is the difference in the price? Defendant: About one farthing per pound. Mr. Francis: I do not understand that any serious injury is likely to arise from this. You must pay a fine of 5*s*. and 14*s*. 6*d*. costs.

ALUM IN EGG-POWDER.

AT Wolverhampton on June 20, Robert Wallis, 18 Piper's Row; Amina Webley, 52 Stratford Street; and Harriet Edwards, 65 Faulkland Street, were summoned for selling egg-powder which contained alum. The Stipendiary fined Webley 40*s*. and costs and the other defendants each 20*s*. and costs.

AN IMPLIED WARRANTY.

AT Southwark County Court on June 25, before Judge Addison, Q.C., and a jury, Elizabeth Williams, trading as John Williams, oil and colour merchant, at Nunhead Green, Peckham, sued Messrs. Pearce, Duff & Co., of Bermondsey, to recover 46*l*. 14*s*., being 20*l*. penalty, costs, and general damages arising from a conviction of the plaintiff for selling adulterated camphorated oil supplied by the defendants on an implied warranty that it was prepared according to the formula in the B.P.

Mr. Scarlett was counsel for the plaintiff, and Mr. Bonsey for the defendants. In opening the case, Mr. Scarlett said that in July, 1898, plaintiff's manager ordered from the defendants three dozen 1*d*. bottles of camphorated oil, and these were delivered on the 6th of the month. On the invoice the goods were described as "a quarter-gross of penny camphor oil," and the price charged was 1*s*. 8*d*. Each bottle bore a label inscribed: "Camphorated oil. P., D. & Co." Plaintiff sold all the bottles with the exception of three by March of this year, when these three were purchased by the wife of an inspector under the Food and Drugs Act. Her husband entered the shop and divided the samples after mixing. Some time afterwards plaintiff was summoned. Her solicitors communicated with the defendants, explaining that the oil had been proved to contain 93·6 per cent. of oil other than olive oil, and was 75 per cent. deficient in camphor, and intimating that the defendants would be held responsible for the consequence of the proceedings. In reply, the defendants admitted supplying the oil, and adding at that time they, "in common with other manufacturers and general custom, were selling a preparation which made no pretence to be in accordance with the Pharmacopœia." Owing to the new B.P., they "ceased to make from the old recipe, and from September 22, 1898, only issued in accordance with the B.P." They denied their liability. Counsel explained that the new edition of the B.P. was published and advertised in the *London Gazette* on April 29, 1898, and, so far as this preparation was concerned, there was no change in the formula. The only difference was that, whereas in the old edition camphorated oil was described as "Linimentum Camphoræ," in the new edition the additional synonym "Camphorated Oil" was used. The defendants should have warned their customers to whom they had sold camphorated oil. The summons was duly heard, but defendants were not represented, and Mrs. Williams was fined 20*l.*, the full penalty under the Sale of Food and Drugs Act, and 17*s.* 6*d.* costs, the Magistrate holding that it was a very bad case, as the stuff was intended for sale particularly amongst the poor, whom the Act was specially framed to protect. The defendants had now set up a special defence that the statute had not been complied with, but he (Mr. Scarlett) hoped to prove that, apart from the statute and on the common law, the plaintiff was entitled to recover the 20*l.* and the costs she had been put to, because there was an implied warranty that the stuff was such as could be safely retailed and was of a quality known to commerce.

His Honour: Is camphorated oil something that can be made up from the B.P. only?

Mr. Scarlett: I should say yes.

His Honour: That is a question of fact.

Mr. Scarlett: I have looked into the old documents with Dr. Teed, and it appears that the statute not only requires chemists and druggists but all persons selling such things to compound them according to the B.P.

His Honour: The contract was to sell him camphorated oil.

Mr. Bonsey: And we say we supplied an article which was well known to commerce as camphorated oil. The fact that what was called liniment of camphor in the B.P. received the additional synonym "camphorated oil" in 1898, did not destroy the meaning of the ordinary commercial sense of what was known among traders, and what had been known among them for a great many years, as camphorated oil.

Albert Norman Metternich, the plaintiff's manager, was called, and stated that he had managed the late Mr. Williams's business for some years. He did not know of any camphorated oil in commerce except that which was sold for medical purposes.

His Honour asked if there had been any other similar prosecutions. Mr. Scarlett: Yes, there have been one or two but they are only reported in such trade journals as The Chemist and Druggist, and of course I cannot refer to them as authorities.

His Honour: No, but they are of great interest, as without being bound by the reported decisions one can read the process of reasoning of the magistrates.

A copy of The Chemist and Druggist was handed to his Honour.

Cross-examined, witness said he trusted the defendants to supply stuff that he could safely sell. He did not really know what the B.P. was.

Wm. Edward Groom, the inspector who took the samples, said he did not know in commerce any other article sold as camphorated oil except that described in the B.P. It was a drug, and the standard he had to accept was that in the B.P.

His Honour: If you used oil with 1 in 16 of camphor mixed with it as a liniment, would it have the same effect as oil with 1 in 4 of camphor as set out in the B.P.?

Witness: My wife tells me it is useless.

Mr. Bonsey: Your wife is not a lady doctor.

Cross-examined, witness said he had known camphorated oil as an article of commerce for sixteen years. He did not take any samples until about a year ago, when he received a complaint. It was not in consequence of the words "camphorated oil" being inserted in the B.P.

Mr. Scarlett handed in a copy of The Chemist and Druggist for September 17, 1898, in which was reported a conviction for selling as camphorated oil something that was not B.P.

Sydney Wm. Lane, chemist, 66 London Road, S.E., said he had never known of any other compound called camphorated oil, and known to commerce as such, except that prepared in accordance with the formula in the B.P.

Dr. F. L. Teed, the public analyst, gave corroborative evidence, and proved the quality of the sample.

This concluded the plaintiff's case.

James Thos. Hoskin, manager to the defendants, said he had been in the drysalters' trade twenty-one years, and had known camphorated oil in the popular sense all that time, and the standard had been nearly about that which they adopted—namely, 1 part of camphor in about 17 The oil used was a mixture of rape and maize. They had sold this preparation as camphorated oil from 1895 to 1898, and it was generally known to commerce as camphorated oil. As soon as they found out that "camphorated oil" appeared in the B.P. they dropped their own formula and accepted that of the B.P.

His Honour: Did you think it ought to be made according to the B.P.?

Witness: Well, several customers said there had been prosecutions, and they would rather sell oil made according to the B.P.

Mr. Bonsey: Of course, the new oil is more expensive, but your profit on it is greater.

Witness: Yes. It is labelled now "Prepared according to the B.P."

Cross-examined: They looked upon the oil as a simple liniment, used for rheumatism, &c., but they did not make any inquiries as to its composition before preparing it. They took no advice except as regarded the oil to be used. He knew there was a book called "Squire's Companion," but did not know that it contained a formula for camphorated oil. The conviction in September, 1898, was one of the reasons which led them to adopt the B.P. formula. They did not think it necessary to call in the oil, and did not think the Act was binding upon drysalters. He thought there was one law for drysalters and another for chemists.

Dr. Dixon, Medical Officer of Health for Bermondsey, and surgeon to the Surrey Dispensary, said camphorated oil was principally sold to the poor, and there had been no recognised standard. Manufacturers generally prepared it according to their own fancy.

His Honour: But do chemists and druggists do that?

Witness: No; they are bound by the B.P. now that the preparation appears there, but not previously. They could make it up as they liked before 1898. Camphor-liniment is of a definite prescribed strength, but camphorated oil had no prescribed strength until the synonym was adopted for camphor-liniment in 1898.

His Honour: Then since camphorated oil has been in the B.P. everybody who buys it expects it to be of the strength of camphor-liniment?

Witness: I think he would be legally entitled to it, but as to expecting it, I suppose ninety-nine out of every hundred know nothing about it.

His Honour: Then if a person asks anywhere for camphorated oil he ought to get it of the strength of camphor-liniment?

Witness: Yes I think he ought.

His Honour (to Mr. Bonsey): Then where is your case?

Mr. Bonsey: I don't think that affects my case in the least.

His Honour: But this gentleman, who has had great experience, and is your own witness, says that if a person asks for camphorated oil he ought to get it prepared according to the B.P.

Mr. Bonsey: I would rather not take his view of the law. I contend that my clients supplied what they were asked for by a trader, and the fact that it was not made according to the standard of the B.P. does not affect the contract between them. He asked for camphorated oil, and we supplied him with camphorated oil such as was known to commerce at the date of the contract.

Dr. Dixon, further examined, said that camphorated oil had been sold by chemists and druggists with a very small percentage of camphor, but they were not entitled to do it since 1898. He thought camphorated oil had a popular meaning apart from liniment of camphor, but poor people ought to get it made according to the B.P. That they do not get it was proved to him by the fact that the camphorated oil prepared at the dispensary, which is not quite up to the B.P. standard, is preferred by patients as being much stronger than they get at chemists'.

Dr. C. W. G. Burrows, of Weston House, Long Lane, Bermondsey, said camphorated oil was an indefinite preparation, of which there were several in the B.P., and was sold at nearly every little shop throughout the country. A preparation of rape and maize oil with camphor in the proportion of one to sixteen would come under the designation of camphorated oil.

Leonard John Dodman, drysalter, Drummond Road, Bermondsey, said he had been in the trade twenty years, and had compounded and sold a large quantity of camphorated oil with cotton-seed oil and camphor in the proportion of 1 to 15. He had never heard of any particular standard for camphorated oil until the recent prosecutions.

Cross-examined: One of his customers had that week been convicted for selling his preparation as camphorated oil, but that had not altered his opinion. He still intended to sell his preparation as camphorated oil.

Edward Mannering, drysalter, Peckham, and Thos. Dodd, for thirty-three years a drysalter, gave corroborative evidence.

Mr. Bonsey, in addressing the jury, said the question was not that the defendants supplied camphorated oil not made according to the B.P., but whether they supplied what the plaintiff asked for, namely, camphorated oil as known to commerce.

His Honour, in summing up, said it was quite clear that the plaintiff ordered camphorated oil, and, therefore, he was entitled to get camphorated oil, whatever that meant. What it did mean was for the jury to decide. The real question was whether camphorated oil, as known to commerce, was oil with some camphor in it, or whether it was of the strength given in the B.P. To make the defendants liable they must find that they understood, or ought to have understood, that they had no business to call anything camphorated oil unless it was made according to the formula in the B.P., and of that particular strength. It was true that chemists and druggists were bound by the B.P. to make up all medicines according to the formulæ therein. He could not hunt through the various Acts of Parliament to see if medicines included drugs. But as chemists were bound to compound camphorated oil according to the B.P. formula, other people ought to act accordingly. It would be very hard upon chemists if they were bound to compound camphorated oil in one way and other people could step in and manufacture it at a much lower strength, and, therefore, sell it for much less. If they thought that there was an implied warranty in the course of business to supply camphorated oil of the strength of the B.P., then the plaintiff was entitled to recover the penalty of 20*l*. and the costs she had actually been put to.

The jury, after a short deliberation, found for the plaintiff for 22*l*. 17*s*. 6*d*.

Mr. Bonsey said that, notwithstanding the verdict of the jury, he would ask for judgment on the ground that the conviction by the magistrate was wrong. The Statute had not been complied with in that the samples were mixed instead of being kept separate as had been held by the High Court was the right course. Plaintiff should have taken this technical objection at the police court, and then the Magistrate would not have been able to convict. Not having taken that technical objection plaintiff could not recover the 20*l*.

His Honour: That has nothing to do with the jury. They have found that plaintiff ordered camphorated oil and ought to have been supplied with oil of the strength stated in the B.P.

Judgment was entered for the plaintiff for 22*l*. 17*s*. 6*d*. and costs.

MARMALADE.

At Glasgow Sheriff Court on June 25, two Glasgow grocers were fined 6*l*. 15*s*. and 3*l*. 15*s*. (costs inclusive) respectively, for selling marmalade which contained from 30 to 35 per cent. of glucose.

County Court Cases.

A KIESELGUHR SUIT.

Bleaching of Infusorial Silica was a subject which Messrs. O'Hara & Hoar, colour merchants, Lime Street, E.C., gave to Messrs. Cooper, Coles & Co., chemists, Westminster, to investigate. When the work was done, Messrs. Coles put in an account for 9*l*. 9*s*. Messrs. O'Hara & Hoar declined to pay, as both parties had been accustomed to assist each other free of charge. The matter came before Judge Lumley Smith on June 20, and the evidence was carried over to Thursday, when the Judge said he was unable to find anything which entitled plaintiffs to charge for experiments. The parties were daily in communication, and defendants sent half-a-ton to bleach, but that was not bleached, and that was where the profit was to come. Judgment accordingly, with costs to either party.

AN UNFORTUNATE CHEMIST.

In the Westminster County Court on Wednesday, His Honour Judge Lumley Smith, Q.C., tried the case of Bowen *v.* Poole, in which the plaintiff sought to recover the sum of 9*l*. 5*s*. 6*d*. in respect of goods supplied to the defendant, a chemist carrying on business at Stoke Newington. The defendant said he had been very unfortunate in business, and had been compelled to close his shop. He had now no means of paying, but would do his best.

His Honour made an order for payment of 10*s*. a month.

Bankruptcies and Failures.

Re HARRY JOHN ISON, Shoplatch, Shrewsbury, Chemist and Druggist.

A meeting of the creditors of this debtor was held at the office of the Assistant Official Receiver (Mr. F. Cariss) on June 22. The liabilities were set down at 1,461*l*. 9*s*., and the assets at 446*l*. 17*s*. 8*d*., leaving a deficiency of 1,014*l*. 11*s*. 4*d*. Proofs were lodged amounting to 815*l*. The debtor offered to pay 7*s*. 6*d*. in the pound within a month, and this was accepted by the meeting, subject, however, to confirmation by the Court. The public examination was held on June 27, and adjourned.

Re GEORGE B. McKILLOP, L.P.S.I., trading as McKillop & Co., Rathgar Road, Rathgar.

The affairs of this debtor will be publicly inquired into at the Queen's Bench Division, Dublin, on July 5, when a special sitting of the Court will be held for proof and admission of debts, and for the vouching of the official assignee's account.

Re WILLIAM STANTON LART, late of 87 Borough High Street, S.E., trading as "The Rizine Food Company."

At a sitting of the London Bankruptcy Court on June 22, this bankrupt applied to pass his public examination upon accounts showing total liabilities 800*l*. 14*s*. 3*d*. (unsecured 535*l*. 14*s*. 3*d*.), and assets valued at 17*l*., after allowing 15*l*. for the preferential claims. After the debtor had been cross-questioned by the Official Receiver, the examination was ordered to be concluded.

Re T. IRWIN WALLAS, 9 Great Marylebone Street, W., Chemist and Druggist.

A receiving-order has been made at the London Bankruptcy Court against the estate of this debtor, who recently presented his own petition. The liabilities are roughly estimated at 5,000*l*. An order of adjudication was also made by the Registrar. The value of the assets did not transpire.

Gazette.

Partnerships Dissolved.

C. F. Townsend and **E. F. Teschemacher**, analytical chemists, Outer Temple, Strand, W.C., under the style of Townsend & Teschemacher.

F. Atkinson and **J. Kearney**, photographic-materials dealers Liverpool, under the style of Atkinson & Co.

The Bankruptcy Acts, 1883 and 1890.

ADJUDICATION.

Matthews, George Herbert (trading as Matthews Brothers), Wollaston, Stourbridge, mineral-water manufacturer.

ORDER MADE ON APPLICATION FOR DISCHARGE.

Jagielski, Victor, Dorset Square, N.W., late York Terrace, N.W., doctor of medicine—discharge suspended for two years, ending May 31, 1902.

From the "Scottish Law Courts Record."

Morrison, A., 136 Cowcaddens, Glasgow, chemist and druggist. Claims with Trustee, George D. Stirling, Glasgow, chartered accountant, by July 12.

Deeds of Arrangement.

Dawson, Edward Hunter, Ritsons Road, Blackhill, and 22 Middle Street, Consett, and residing at 1 West View, Ritsons Road, Blackhill, patent-medicine vendor. Trustee, Alfred E. Usher, 28 West Sunniside, Sunderland, chartered accountant. Dated June 18; filed June 20. Secured creditors, 500*l*. Liabilities unsecured, 605*l*. 4*s*.; estimated net assets, 100*l*. The following are scheduled as creditors :—

	£	*s.*	*d.*
Brook, Parker & Co., Bradford	14	0	0
Burnicle, J. F., Sunderland	50	0	0
Crosfield, J., & Sons (Limited), Warrington	25	0	0
Foggett, W., Thirsk	83	0	0
Goodall, Backhouse & Co., Leeds	16	0	0
Hindhaugh, J., & Co., Newcastle-on-Tyne	32	0	0
Holland, G., Sunderland	13	0	0
Jackson, W. & H., Liverpool	11	0	0
Jameson, Mrs., Sunderland	357	0	0
Kerfoot, T., & Co., Ashton...	27	0	0
Mandall & Co., Stockton	13	0	0
Murray, R., Sunderland	22	0	0
Raimes & Co., Stockton	11	0	0
Simcock, T. W., Leeds	14	0	0
Sunderland Mutual Banking Society, Sunderland	82	0	0
Taylor, Gibson & Co., Newcastle	11	0	0
Bankers' claims...	227	0	0

Martlew, Ernest Hercules Bridger, 460 Dudley Road, Wolverhampton, chemist. Trustee, George Aiken, Midland Chambers, Princes Street, Wolverhampton, accountant. Dated June 18; filed June 22. Liabilities unsecured, 134*l*. 3*s*. 6*d*.; estimated net assets, 100*l*. The following are scheduled as creditors :—

	£	*s.*	*d.*
Hodgkinsons, Clarke & Ward, London ...	10	0	0
Hull, G.	10	0	0

New Companies & Company News.

Nao Synd (Limited).—Capital 45,000*l*., in 1*l*. shares. Objects: To adopt an agreement with I. A. Timmis for the acquisition of certain patents and rights, and to take over the business of the "Nao" Food Company. Registered office, 16 Queen Victoria Street, E.C.

Northern Soapmakers' Trade-mark Protection Association (Limited).—Registered with an unlimited number of members, each liable for 5*l*. To protect the legal rights of members with reference to trade-marks, trade-names, and designs, as applied to soaps. The management is vested in a committee.

Sancford, Grimshaw & Co. (Limited). — Capital 2,000*l*., in 1*l*. shares. Objects: To acquire the business now carried on at Leeds as "P. Sancford & Co.," and to carry on the business of vinegar brewers and merchants, drysalters, druggists' sundriesmen, mineral-water manufacturers, &c. Registered office, 20a Dewsbury Road, Leeds.

Wilkinson & Akeroyd (Limited).—Capital 40,000*l*., in 5*l*. shares. Objects: To carry on the business of soapmakers and boilers, oil refiners and extractors, grease-extractors and merchants, chemists, glycerin-distillers, &c. The first directors are W. H. Wilkinson, F. W. Akeroyd, and S. W. Wilkinson. Qualification, 500*l*. Remuneration, as fixed by the company.

Alfred Bird & Son (Limited).—Capital 300,000*l*., in 5*l*. shares (30,000 preferred). Objects: To acquire the business carried on at Birmingham and London as Alfred Bird & Son, and to carry on the business of manufacturers of and dealers in custard-powder, egg-powder, and food products, wholesale and manufacturing chemists, &c. The first directors are A. F. Bird (Chairman), R. B. Bird, G. Bird, and F. H. Clarke. Qualification, 1,000*l*.

New Industrial Refining Company (Limited). — Capital 20,000*l*., in 1*l*. shares. Objects: To acquire certain inventions relating to the production of gases, to turn the same to account in bleaching, sterilising, or otherwise, and to carry on the business of chemists, drysalters, makers of electrical and other apparatus, &c. The first directors are G. St. J. Mildmay, J. Crichton, T. H. L. Bake, and A. F. Yarnold. Qualification, 500*l*. Remuneration, 500*l*. per annum, and a share in the profits.

Norseman Manufacturing Company (Limited). — Capital 1,000*l*., in 1*l*. shares. Objects: To adopt an agreement with A. Norreys, and to carry on the business of chemists, druggists, patent-medicine vendors, druggists' sundriesmen, &c. The first subscribers are:—S. W. Holliday, The Laurels, Sidcup, Kent, accountant; G. W. Basford, Oak Hall Road, Wanstead, clerk; R. W. F. Grace, 83 Leman Street, E., clerk; W. A. Stearns, 23 Leadenhall Street, E.C., secretary; B. S. Hayles, 10 Osborne Road, Finsbury Park, typist; W. M. Cutter, 5 Walmar Road, S.E., clerk; and E. Ells, Mandeville Road, Enfield Wash, clerk. Registered without Articles of Association.

Sandrons (Limited).—Mr. Arthur Wenham, of Messrs. Wenham, Angus & Co., 10 Walbrook, E.C., has been appointed liquidator of this company.

Apollinaris and Johannis (Limited).—A dividend on the ordinary shares at the rate of 6 per cent. per annum for the half-year ended March 31 is payable, less tax, on July 13.

French Hygienic Society (Limited).—It was resolved on May 31 that this company be wound up. Mr. E. Hayes, 28 Basinghall Street, E.C., chartered accountant, is the liquidator.

W. & H. M. Goulding (Limited).—The directors of this firm of chemical-manufacturers have declared a dividend of 4½ per cent. per annum on the debenture stock, 5½ per cent. on the preference shares, and 7 per cent. on the ordinary shares, for the half-year ending June 30.

Scottish Standard Meat, Biscuit, and Chemical Company (Limited).—A meeting will be held at 5 North Street, David Street, Edinburgh, on June 28, at 12, to confirm resolutions passed June 13—viz., "That it is expedient to effect the amalgamation of this company with the Edinburgh Chemical Company (Limited), and that with the view thereto this company be wound up voluntarily as from and after September 30 next.

G. B. Kent & Sons (Limited).—We learn that Messrs. G. B. Kent & Sons, brush manufacturers, Farringdon Road, E.C., have decided to form their business into a limited company, and the prospectus will, we understand, be issued the latter end of next week. We believe the issue will be for 5½-per-cent. preference shares to carry also half interest in the profits after 10 per cent. has been paid on the ordinary shares, and that the trade will have a preferential allotment. The prospectus is being issued by Messrs. G. H. & A. M. Jay, stockbrokers, 17 Old Broad Street, London, E.C.

Hugh Moore & Alexanders (Limited), Perfumers, &c., Dublin.—At the ordinary general meeting of the directors and shareholders of this company, held at Dublin on June 22, the Chairman (Mr. J. W. McNeight), in proposing the adoption of the report and accounts for the year ended March 31, explained that the net profits could not pay a larger dividend on the ordinary shares than 5 per cent., because there had been considerable expense incurred under at least two heads which will not occur again, and the bad debts had been much over the average of past years. There was nothing whatever connected with the business or accounts to cause the directors the slightest anxiety, and there had been larger sales during the year. The directors had purchased the business of Fred Lewis & Co., perfumers, as from January 1 last. The trade of this business had, since the death of Mr. Fred Lewis, dwindled away to almost nothing, but there still remained his valuable recipes and his name. It took a considerable time to pull things together. Each month had shown a steady increase in the sales, and the directors anticipated that in course of time all the old accounts would be re-opened, and a large and profitable business done. The report and statement of accounts, and the payment of a final dividend of 5 per cent. on the preference and 5 per cent. on the ordinary shares, was unanimously agreed to. The retiring directors, Messrs. Wm. Alexander and R. H. Moore, were re-elected.

There are twenty-six applicants (six of whom are ladies) for the post of dispenser at Highgate Infirmary, rendered vacant by the sudden death of Mr. C. H. Fryer.

Messrs. Stevenson & Howell's employés had their annual excursion to Brighton last Saturday (June 23). They arrived early in the morning, and at 1 o'clock dined in Markwell's Hotel, and later had tea there. A most enjoyable day was spent.

British Pharmaceutical Conference.

Meeting in London.

Second List of Subscriptions to the Entertainment Fund.

A Friend	0	10	6
Amoore, A. S. ...	2	2	0
Apollinaris Company	5	5	0
Atkinson, L. G. ...	0	10	6
Baker, A. P	0	10	6
Bateman, T. H. & Co.	2	2	0
Bird, F. C. J. ...	1	1	0
Bridges, C.	1	1	0
British and Colonial Druggist	5	5	0
Bullock, J. Lloyd ...	2	2	0
Burgoyne, Burbidges & Co.	5	5	0
Colchester, W. M. ...	0	10	6
Constance, E. ...	1	1	0
Corbyn, Stacey & Co.	5	5	0
Cresswell, — ...	1	1	0
Cresswell, F.... ...	1	1	0
Davis, D. S.	0	10	6
Davy, Hill & Co. ...	5	5	0
Evans, J. A.	1	1	0
Fassett & Johnson ...	5	5	0
Frost, W. Toogood ...	2	2	0
Gosnell, John ...	2	2	0
Harrington Brothers	2	2	0
Harrison, A. W. ...	2	2	0
Hatfield, G. B. ...	1	1	0
Howie, W. L. ...	1	1	0
Huskisson, H. O. & Co.	5	5	0
Ingram & Royle ...	2	2	0
Jones, R. H.	1	1	0
Lansdown, G. A. ...	1	1	0
Lorimer & Co. ...	5	5	0
Macdonald, Alex. ...	1	1	0
Macfarlan & Co. ...	5	5	0
Matthey, G.	2	2	0
Meggeson & Co. ...	5	5	0
Morris, E. W. ...	1	1	0
Norton, F.	0	10	6
Oppenheimer & Co.	5	5	0
Parker, T. P. ...	1	1	0
Parsons, W.	2	2	0
Paul, Dr.	2	0	0
Pettinger, E.... ...	0	10	6
Potter & Clarke ...	5	5	0
Pretty, C.	1	1	0
Roach, H.	2	2	0
Roberts, S.	2	2	0
Roberts & Co. ...	2	2	0
Sadler, W.	1	1	0
Sage, C. E.	1	1	0
Sangster, A.... ...	2	2	0
Saunders, A.... ...	0	10	6
Shaw, J.	1	1	0
Solomon, A. H. ...	1	1	0
Squire, Peter W. ...	2	2	0
Stickland, W. H. ...	2	2	0
Storey, E. H. ...	1	1	0
Taplin, J. W. ...	1	1	0
Umney, J.	2	2	0
Warner, J.	1	1	0
Whinfield, Hora & Co.	5	5	0
Will, W. Watson ...	2	2	0
Williams, J.	0	10	6
Willows, Francis & Butler	5	5	0
Wilson, J.	1	1	0
Wilson, Harold ...	1	1	0
Wink, J. A.	2	2	0
Woollons, C. H. F. ...	1	1	0
Wootton, A. C. ...	2	2	0

Personalities.

Mr. J. R. Ellis, governing director of Daisy (Limited), Leeds, is still very seriously indisposed.

Mr. J. E. Bush, chemist and druggist, has been elected ice-chairman of the Melksham Urban District Council.

Mr. John E. Laurier, who is serving as a juror at the Paris Exhibition, is the Paris representative of Messrs. Gray, Laurier & Co., of London.

Mr. Jos. Eckersley, formerly representative for Messrs. Baiss Brothers & Stevenson in Manchester, is now repreenting Messrs. Potter & Clarke in the same district.

Mrs. J. S. Wilson, widow of the late Mr. John Shepherd Vilson, chemist and druggist, 48 King's Road, Southsea, ıtimates that the business will be continued as heretofore nder the management of her son Mr. E. J. Wilson, with 'hom she is associated in the partnership.

Mr. Richard Winfrey, pharmaceutical chemist, Long utton, who contemplates standing as Liberal candidate for outh-west Norfolk at the next General Election, was ntertained along with Mrs. Winfrey at a garden-party given y Mr. and Mrs. Millington, of Thetford, Norfolk, on June 23.

It is stated that Councillor FitzHugh (President of the ottingham Chemists' Association) is to retire from the City ouncil at the end of his present term of office in October. e has had a long and distinguished career as a City ouncillor, and in 1891 filled the office of Mayor with much ignity.

Professor C. F. Chandler, M.A., Ph.D., LL.D., the resident of the Society of Chemical Industry, arrived in ondon on Wednesday by the *Manatu*, and was received ı behalf of the Society by Mr. T. Tyrer. The *Oxford Unirsity Gazette* of June 27 announces that the honorary egree of D.Sc. Oxon. is to be conferred by the University pon Professor Chandler.

Correspondence

TO CORRESPONDENTS.—Please write clearly and concisely on one side of the paper only. All communications should be accompanied by the names and addresses of the writers. If queries are submitted, each should be written on a separate piece of paper. We do not reply to queries by post, and can only answer on subjects of general interest.

A Pharmacy-degree.

Sir,—Dr. McWalter has been good enough in your last issue to suggest myself as a suitable person to "organise some of the London brethren into working form" for approaching the Senate of the Birmingham University *re* degrees in pharmacy. I have, therefore, called upon twenty pharmacists carrying on retail businesses in London, with the object of ascertaining their views. Three-fourths of these have expressed to me in forcible but polite language that they have no interest whatever in the matter, and could not either influentially or pecuniarily offer support; four of the remaining five were apathetic; whilst the fifth stated he was sick of all pharmaceutical politics, and, as to advancement, he never expected any except in examination-fees and such-like. This was from a man who was formerly a strong supporter of the Society and a good worker. Such being the case, I must decline the honour Dr. McWalter suggests; but any other gentlemen who will call the meeting I will actively and willingly support. Perhaps the Western Chemists' Association of London might be persuaded to take the initiative.

Faithfully yours,

Frederick Davis.

Imperial College of Pharmacy, E.C.

"Titles."

Sir,—Mr. Walter H. Keen is mistaken in thinking that I do not place due importance on the protection of titles. My sympathies are all with the "No-compromise" party in regard to both the titles and practice of pharmacy; but I am of opinion that we have been too long in taking the bull by the horns for this policy to succeed. By forcing limited companies to have qualified managers and directors, however, we can protect largely both practice and titles, and I am afraid this course is the only one open to us now. In face of all that has been said and done by the present Government, through the President of the Board of Trade, I am still of opinion that this policy would meet with sympathy in the House of Commons. It is so evidently an injustice of the gravest nature to induce men to qualify themselves at great expense for duties which are undertaken with impunity by men of no special education, and to grant titles as a result of severe examinations which are appropriated wholesale by men who never underwent any special examinations, that I do not believe any legislative assembly in the world would lend direct support to it. We are so much hampered by genuine pharmacists having availed themselves of the Limited Liability Act that I am afraid we cannot get rid of this principle altogether; but by insisting on qualified directors and managers we can get rid of the broken-down grocer or the quack nondescript. As shares in genuine drug-companies seldom are offered on the Stock Exchange, but are mostly confined to the directors and their relatives, we would by this course practically confine pharmacy to legitimate channels. We have a long uphill fight (mainly the result of past inaction) in front of us, however, before we can reach this end; but I believe there is enough energy in awakened pharmacy to "see the thing through."

Dumfries, June 25. James Reid.

Sir,—Mr. Reid's Titanic tirades are disturbing my equanimity. I know we have some real grievances, for I have read all Mr. Reid's letters. I have also attended many meetings where caustic irony, acetic abuse, and aloetic invective amply proved that we cannot sugar-coat our own bitterness. Another injustice with a touch of "ould Ireland" about it has cropped up. The anonymity of a writer in the *Pharmaceutical Journal*, who calls himself "An Ordinary Pharmacist," has provoked wrath and indignation in our bosoms, but until I found a broad-minded critic like Mr. Reid was similarly afflicted, I thought the injustice too touchy to tackle. "An Ordinary Pharmacist" can take good care of himself, but I do not think it fair treatment to try to discount his opinions because he chooses to use a pseudonym. If he is right he is right, even if he is the meanest amongst us; and if he is wrong he is wrong, if he is the President himself. His statements should be taken for what they are worth, the *nom de plume* does not make them either any better or any worse. [Quite right, but Mr. Reid did not complain about the anonymity.—EDITOR.] To endeavour to disparage a writer by aspersions on his identity only robs the appended criticism of a portion of its pungency. Perhaps I am not so far-sighted as Mr. Reid, for I fail to detect in "An Ordinary Pharmacist" any desire to stir up ill-feeling between chemists and assistants. Of course, if we go about with Sam Weller microscopes looking for grievances, we shall find them concealed as deadly germs in the milk of human kindness. I can detect so many with the naked eye that I wear non-actinic glasses just to tone them down, which may account for my looking at "Facts and Fancies" in rather a different light to the Röntgen-ray grievance-mongers. I admit that some of "Ordinary Pharmacist's" facts are very unpleasant truths, but I am also bound to admit that some of us deserve our toes treading on. I appreciate Mr. Reid's conservative attitude on the suggestion to relinquish our sole right to the sale of poisons. This is one of the "Fancies" of "An Ordinary Pharmacist," and does not deserve to be treated on the "rob a poor man of his beer" principle. If we could secure our titles and the compounding and dispensing of medicines in exchange for the schedule, we should still hold collateral security for the whole trade in poisons used medically. Even if the laxity of the law induced Messrs. Dick, Tom, and Harry to push poisons on store and huckster lines, it would probably be the best thing for pharmacy, for about two years of untrammelled free trade in poisons would result in an alarmed public, an indignant Press, and an awakened Parliament begging of us to again take charge of the public welfare on our own terms. I fear being thought objectionable, or I would point out to Mr. Reid how his trenchant pen might be used with far greater benefit to us all than by tilting at a writer who elaborates on current topics in a straightforward manner, not glossing over the many faults still existing in our own ranks. In conclusion, I must thank Mr. Reid for a not unpleasing oscillation of the diaphragm over the humorous incongruity of "bloated millionaires" and "the wills of deceased chemists."

Batley, June 26. R. BROADHEAD.

Arsenical Sodium Phosphate.

SIR,—Referring to your editorial comment this week *re* "Arsenical Sodium Phosphate," I notice the first intimation that Messrs. Bishop gave to the trade was in May. I do not think these prosecutions could possibly be an outcome of their circular, because I fancy it was in April I was asked for the same thing, but, fortunately, did not have it. I knew it was for analysis, and I also knew that every chemist in Paddington had been tried for it and that only two firms had supplied it; one sample being Bishop's, in their original bottle, the other being supplied from bulk. It seems to me that the discovery was made after these samples were taken.

Yours truly,

St. Peter's Park, W., June 22. WM. GEO. BURGE.

A Captious Critic on the Conference.

SIR,—I think that the promoters of the British Pharmaceutical Conference would do well to take account of the amount of irritation which has been caused by the recent proceedings in London. We, mere provincials, somehow had conceived the idea that the London Conference would certainly be a memorable one, and would break the record as regards numbers of attendance, splendour of entertainments, distinguished patronage, and brilliance of scientific work. Now, if I am allowed the ill-taste to comment on the subscription-list, it is obvious that the great wholesale houses regard the Conference as what Mr. Mantilini would call a "dem'd disagreeable bore," and have practically boycotted it. Of course they have all subscribed, but evidently under a fixed and firmly-kept compact that no more than a nominal sum should be given. [It was so arranged by the Committee.—EDITOR.] The certainty is that the money received will be quite inadequate to receive the number of conferees who may be expected to turn up. Then there is the Lord Mayor fiasco. Now, am I or my provincial brethren to travel some 400 miles to London for the honour and glory of being welcomed by a gentleman who is doubtless very estimable, but who has nothing to recommend him but his official position, whom we never heard of before, and whose official position happens to have no interest to some of us? And are we to do this under the insinuation that the British Pharmaceutical Conference is such small potatoes that the Metropolitan Chief Magistrate could not be invited to throw in a quarter-of-an-hour some morning to give them a perfunctory welcome? In Plymouth last year we had no fewer than three mayors to welcome us; in Liverpool a peer of the realm did the job; in Glasgow we had the Lord Provost; in Belfast the Lord Mayor and his personal invitation to a champagne garden-party. In Dublin the feeling was that the Lord Mayor was scarcely good enough for the Conference, and it was suggested to approach the Lord Lieutenant himself. Again, we are invited to pay 8*s.* 6*d.* for our bed and breakfast at the Hôtel Métropole. We are not even told whether we shall get a *table-d'hôte* repast for the money or only the tea-and-bread-and-butter style. Then we shall have Tuesday evening all for ourselves, to do what we like with, and we shall experience the piquant charm of running from the Métropole to Bloomsbury Square before 10 A.M. for the distinguished welcome referred to above. Another somewhat irritating point is this—you get a card for the reception saying the President desires the honour of your presence, &c. So far, so good. But you are also told that the reception is one of the functions that your first half-guinea ticket pays for. Now, is this so? Do you pay for the entertainment, and then accept an invitation for it. It is a small point, but I have heard it commented on before. Now, I need not say that we all know Mr. Holmes, and that we all desire to honour him, rather it is that because he is President this year that we should be the more grieved if anything occurred to mar the success of the meeting. Now, it is possible that I am an exceptionally querulous, irritable, and fault-finding individual, and that not one in a thousand would make the same complaints. But it is also possible that it may be said of me, as Madame de Stael said to Helvetius, "You have said what we all think."

Yours truly,
M.P.S.I. (113/73.)

A Sponge Import.

SIR,—Our attention having been called to a statement relative to a shipment of 3,000 cases of sponge, we beg to state that no shipment of anything like that extent has ever arrived in this country. The arrivals of sponges of good quality are gradually diminishing, whilst prices all round are considerably increasing.

Yours faithfully,
F. W. BOWYER & BARTLEET,
Brokers to the Sponge Trade.

147 Fenchurch Street, E.C., June 22.

[No such statement has appeared in the *C. & D.* We note the arrival, however, of 1,331 cases and 3 bags per s.s. *Drayton* from Smyrna.—EDITOR.]

Chemists' Assistants' Union.

SIR,—This organisation completes its second year to-day. Although in its infancy, it has already more than justified its existence, and that it has supplied a real want amongst assistants is amply proved by so many instances of members securing through its influence good and remunerative appointments. It is the only institution in the trade which, whilst only taking from its members a few shillings annually as subscriptions, places them in positions commanding lucrative incomes. For this reason, perhaps, it owes its popularity, and if this was its only charm, it should still continue to increase its membership and utility.

But its chief object is to better the lot of the chemist's assistant. It proposes to use its powers in every legitimate way to improve the status of its members, to endeavour as far as possible not only to secure a better recognition of their position to obtain for them greater remuneration where consistent with the proper conduct of business, less confinement to business premises, and some reduction in the present too lengthy hours of service.

Since the altered conditions of membership of the Pharmaceutical Society have permitted qualified assistants to have some voice in the election of members to its Council, it has been considered essential that assistants should be represented there by one of their own number, who should make it his special duty to look after their interests. Although two unsuccessful attempts have been already made to secure this representation, it is confidently hoped that next year assistants generally will make it evident that they are determined in this matter by electing one who really has their interests at heart, besides that of masters and his own.

There is room, also, on the Union Council for members who will do their best in making the Union that success which its objects deserve. Gentlemen so inclined should communicate with the Secretary, Mr. R. E. Wright, Hampden House, St. Pancras, who will be happy to secure the services of suitable men until the annual election in October next. Assistants are also required in at least 200 centres to act, when necessary, as local secretaries for their respective districts. It is from these appointments that the executive looks for that information which guides them in the selection or rejection of engagements for its members. For the purpose of facilitating the duties of the secretaries, it is imperative that members wishing to avail themselves of the services of the employment department must inform the chief secretary of their number of years' experience, whether qualified or not, age, kind of business accustomed to and required, length of service in last situation, hours of employment, cause of leaving, and salary received or expected, in order that he may be guided as to the quality of engagement suitable to offer. These details are kept in the Union's register, and are available on inquiry by masters seeking assistants. It is hoped that this intimate knowledge of its members will, in time, place the Union in a position to confidently recommend many of its members to masters, and so secure for its members in the future, as in the past, most of the best situations which present themselves.

The annual subscription to the Union is at present fixed at only five shillings, and until the funds are sufficient to allow the Council to secure a more permanent address, through the courtesy of Messrs. Glendenning & Co., of Newcastle, the executive is permitted to make use of their London offices for business purposes at 67 Shaftesbury Avenue, W.

June 23. C. E. Pickering.

Legal Queries.

Before sending in a query for reply in this section see if the subject is not dealt with in "The Chemists' and Druggists' Diary," 1900, pages 212-226, and pages 259-262.

105/66. *Amicus.*—A traveller who collects money for his employer and fails to pay it over commits a criminal offence. A warrant for his arrest can be applied for.

103/59. *Inventor.*—You are so ignorant in regard to pharmacy law that you should read the information on the subject in our Diary.

116/2. *J. Blank.*—As long as a compounded medicine containing hydrocyanic acid is entered in the prescription-book with the name of the purchaser, it need not be labelled "Poison." The Pharmacy Act says nothing in regard to the origin of the prescription, which may be your own.

Information Wanted.

Postcard replies to any of the subjoined inquiries will be esteemed.

100/50. Salmiac pastilles: where obtainable?

113/25. Address of maker of "Petroline," a pomade for the hair, formerly made by the Petroline Company.

We are compelled to hold over a large number of replies to correspondents owing to pressure of other matters.

Trade Report.

NOTICE TO BUYERS.—The prices given in this section are those obtained by importers or manufacturers for bulk quantities or original packages. To these prices various charges have to be added, whereby values are in many instances greatly augmented before wholesale dealers stock the goods. Qualities of drugs and oils vary greatly, and higher prices are commanded by selected qualities even in bulk quantities. It would be unreasonable for retail buyers to expect to get small quantities at anything like the prices here quoted.

42 Cannon Street, London, E.C.: June 28.

The prominent features of the markets this week are the continued advances in Eastern produce, especially oils of cassia and star-anise, in both of which a good speculative business has been done in view of the Chinese troubles. Rhubarb has also been in better request since the firmer tendency in auction last week, and about forty to fifty cases have been sold, mostly for export. Ergot of rye is another drug to which considerable attention has been paid this week, and in view of the depleted stocks the position looks ripe for further advances, unless the consumption is checked by the high prices. In heavy-chemicals there are no alterations of importance, with the exception of sulphate of ammonia which is lower. Quinine has been quiet, and is slightly easier at the close. The principal changes are as under:—

Higher	Firmer	Easier	Lower
Ergot Linseed Oil, anise, star Oil, cassia Oil, thyme Menthol	Cassia lignea Pimento Rhubarb	Ammonia sulphate Bleaching-powder Quinine	Oil, turpentine

Arrivals.

The following drugs and chemicals have arrived at the principal ports of the United Kingdom from June 19 to 27, both inclusive:—London.—Acid, picric, 29; ajowan-seed, 40; argols, 139; arsenic (Spain), 106; balsams, 16; calumba (from Hamburg), 737; camphor, 202; cannabis indica, 11; cardamoms, 49; cassia lignea, 121; cassia oil, 6; castor oil (Ital.), 15; cinchona, (E.I) 685, (Ceylon) 198, (from Lisbon) 20; cloves, 1,080; cocculus indicus, 70; cochineal, 28; cod-liver oil, (Newf.) 254, (Norweg.) 42; colocynth, 7; cream of tartar, 50; cumin-seed, 55; eucalyptus oil (Amst.), 141; fenugreek-seed, 715; galls (Pers.), 460; glycerin (Austral.), 11; gum arabic, (Mog.) 23, (E.I.) 178; gum sandarac, 233; gum tragacanth, 35; gum (unenumerated Persian) 650, (from Bombay) 470; honey 25, (Jam.) 387; isinglass, 25; jaborandi-leaves, 7; kino, 15; lime-juice, 9; nux vomica (from Bombay), 293; oils, essential (Messina), 194; olibanum, 55; opium, 21; orris, 20; potassium cyanide (from New Orleans), 100; quicksilver, 200; rhubarb, 2; sandalwood, 723; sarsaparilla 3, (from New York), 50; senna (Alex.) 39, (Tiny.) 176; tamarinds, 3; turmeric (E.I.), 432; vanilla, 13; wax, bees' (Span.) 26, (E.I.) 10, (Morocco) 52, (Jam.) 10, (from Hamburg) 167, (Ital.) 10. Liverpool.—Aloes (from Havre), 20; canary-seed, 20; cannabis indica, 3; castor oil (E.I.) 614, (Ital.) 182; cinchona, 10; galls, 5; "guinea corn," 19½ bags; honey (Chil.), 832; iodine, 476; kola, 6; mastich, 2; opium, 44; orris, 10; saffron, 1; scammony-root, 30; turmeric (E.I.), 10; wax, bees' (Ital.) 39, (Chil.) 32; wax, carnauba, 416; wax, Japanese, 200. Southampton.—Arrowroot (St. V.), 20; cocaine (crude), 1; ginger (Jam.), 541; honey (Jam.), 15; kola (W.I.), 5; lime-juice (W.I.), 20; sarsaparilla, 21. Hull.—Cod-liver oil, 472.

French West African Trade.

The commerce of that portion of French West Africa which lies between the British colony of the Gambia and Portuguese Guinea, and which is known as Casamana, has been showing considerable developments in the last few years. The following figures relate to the exports of native produce during 1899, those for 1898 being in brackets:—Beeswax, 1,501*l.* (557*l.*); palm oil, 667*l.* (2,032*l.*); indiarubber, 68,011*l.* (41.631*l.*); palm-nuts, 2,902*l.* (3,613*l.*); and ground-nuts, 6,639*l.* (8,714*l.*).

Heavy Chemicals.

[*These prices are for market-centres other than London.*]

A quietly steady tone is the prevalent feature of the heavy-chemical market at present, and buying for home-trade requirements is slack, and will most probably remain so until after the half-yearly stocktaking. In all the main centres—the Tyne, Clyde, and Lancashire—the same feeling is apparent. On the Tyne very little is doing, as this is the "Annual-race Holiday." Export trade is steady, being well up to the average.

Alkali Produce.—Caustic soda continues in good request and prices are firm at late rates. Similar remarks apply to soda crystals. Bleaching-powder is not in such active demand as of late and price tends a trifle lower, although so far without change. Other products under this head remain practically as lately reported.

Sulphate of Ammonia is very dull, little actual business passing. Quotations stand about as follows:—Beckton nominal, 11*l.* 17*s.* 6*d*; and Beckton terms, 11*l.*; London, 10*l.* 17*s.* 6*d.*; Leith and Hull, 10*l.* 15*s.* to 10*l.* 17*s.* 6*d.*

Saltpetre steady and unchanged, British refined barrels 21*s.* per cwt., and kegs 22*s.* per cwt. German barrels and kegs 19*s.* 6*d.* and 20*s.* 6*d.* respectively.

Sulphocyanides are only moving slowly. Potassium, $6\frac{3}{4}$*d.* per lb.; barium, 95 per cent., 4*d.* per lb.; and ammonium, 95 per cent., 6*d.* per lb.

Phosphorus, in fair request at unchanged rates. Wedges 2*s.*, and sticks 2*s.* 1*d.* per lb.; amorphous 2*s.* 6*d.* per lb.

Magnesium Salts continue to move well. Sulphate (Epsom salts), 60*s.* to 62*s.* 6*d.* per ton, free on rails in bags; carbonate of magnesia, 37*s.* 6*d.* to 40*s.* per cwt.; calcined magnesia, 1*s.* to 1*s.* 4*d.* per lb.; chloride of magnesia, 60*s.* per ton.

Recovered Sulphur keeps steady at 4*l.* 15*s.* to 5*l.* per ton, free on rails in bags.

Satin White in good demand at late rates; 5*l.* 5*s.* to 5*l.* 15*s.* per ton, on rails in casks.

Pearl Hardening unchanged at 3*l.* 5*s.* to 3*l.* 10*s.* per ton.

Zinc Salts.—Sulphate crystals, 7*l.* 5*s.* to 7*l.* 7*s.* 6*d.* per ton; chloride-of-zinc solution, 100° Tw., 7*l.* 5*s.* to 7*l.* 10*s.* per ton; pure chloride-of-zinc cake, 1*s.* to 1*s.* 1*d.* per lb.

Satinite unchanged at 3*l.* 2*s.* 6*d.* to 3*l.* 12*s.* 6*d.* per ton, f.o.r. or f.o.b.

Liverpool Drug Market.

Liverpool, June 27.

Castor Oil.—The market remains steady, with good Calcutta seconds at $3\frac{3}{4}$*d.* per lb. First-pressure French is $3\frac{5}{16}$*d.* to $3\frac{3}{8}$*d.*, being better for the week. First-pressure English, $3\frac{1}{4}$*d.* to $3\frac{5}{16}$*d.*, and sulphur French, 3*d.* per lb.

Quillaia-bark.—There has been considerable business at prices ranging from 13*l.* 5*s.* to 13*l.* 10*s.* per ton, at which figure a considerable quantity has changed hands. Several parcels are held off the market for better prices.

Ginger, African.—At auction 69 packages were offered; 24*s.* was asked, but the quality was not liked by buyers.

Canary-seed.—Exceedingly flat, at 32*s.* 6*d.* per quarter for good bright Turkish.

Sulphate of Copper is firm, at 24*l.* 17*s.* 6*d.* per ton, and there is a disposition to quote firmer prices forward.

Gum Acacia.—29 serons of fine soft Soudan sorts have been sold during the week at 85*s.* per cwt., and a small parcel of Ghezireh at 50*s.*

Quassia-logs.—Further sales are reported at 3*l.* 15*s.* per ton.

Copaiba.—6 barrels of cloudy Maranham offered at auction, and 1*s.* 4*d.* was bid. The parcel was ultimately cleared at 1*s.* 5*d.* per lb.

Turps is again easier at 37*s.* 6*d.* per cwt. on the spot, and lower prices are quoted forward.

Beeswax.—Considerable sales have taken place during the week at prices ranging from 7*l.* 5*s.* to 7*l.* 10*s.* per cwt. One parcel is held for 7*l.* 17*s.* 6*d.* per cwt.

Jaborandi.—A parcel of 7 bales small leaf has arrived, and will be offered at auction.

Linseed has experienced a very sharp and substantial rise River Plate varieties fetching 57*s.* 6*d.* per quarter.

Licorice-root.—An arrival of 20 bales offered at auction, but only elicited a bid of 7*s.*, which was refused, owner's idea being 13*s.* to 14*s.* per cwt.

Aloes, Curacoa.—20 boxes offered at auction and no business resulted. Owner's idea of value was 25*s.*

Cochin Ginger.—100 bags fine quality were offered at auction, but no buyers came up to the limit of 35*s.* per cwt.

Calabar-beans.—A lot of 22 packages, which have been held off the market for some time, are now put forward at 6*d.* per lb.

Honey continues to maintain its position, and sales are reported of Chilian and Californian at late rates.

French Drug Market.

Paris, June 26.

Our market continues very quiet.

Acid, Citric.—In a strong position, at 385f. per 100 kilos.; a few second-hand parcels can still be bought at 380f., but it is generally expected that we shall soon rise to 400f.

Glycerin.—I have to report an advance of 2f. 50c. to 5f. per 100 kilos., according to holder, and several manufacturers advise their friends to cover themselves on account of the scarcity of the raw material.

Castor Oil is very firm, with a rising tendency; in fact our manufacturers affirm that within several months famine-prices will have to be paid on account of the great scarcity of seeds. Last week about 3,000 tons of oil-seeds of all descriptions were taken out of the French markets, and several makers are already short of oil and bought back contracts they had entered. Actual quotations to-day are 78f., 74f., and 72f., for medicinal, first and second pressings, but sellers are by no means eager to accept contracts, and an offer of 76f. for 150 tons has been declined by makers, which plainly shows the great strength of the situation. The new-crop seeds are not expected before March-April of next year, and as soon as the consumers come forward further rises will take place. Those who have inside knowledge of the oil-business say that they will not be surprised to see castor oil at 100f. and above before long.

Gums.—Senegal gums continue to command strong prices, and it is impossible to obtain several of the current grades. It is said that our dealers make great efforts to avoid a further rise, but the stocks are extremely reduced, and if a large demand springs up higher quotations may be expected.

Gentian is firm, but unchanged.

Valerian-root.—New-crop for November delivery is already rising, and to-day's quotation is 70f. to 75f., owing to bad reports about the plant.

American Drug Market.

New York, June 19.

The drug-market presents a very tame appearance, and there is little of interest to report. Transactions are unimportant, and values have undergone no material change.

Opium continues quiet and steady, at $3·10 to $3·15.

Quinine is inactive in manufacturers' hands, but second-hands report fair sales at 31c. Competition between domestic makers is very keen, and in one or two instances the ruling quotation has been shaded.

Ergot is firmer, and German is generally quoted at 45c. Little business is, however, being transacted.

Gentian-root is firmer, in sympathy with conditions abroad; $3\frac{3}{4}$c. to 4c. will buy.

Curacoa Aloes are offering freely at $3\frac{1}{2}$c.

Gum Kino is in better supply, and packages are offered as low as 50c.; up to $1 is asked for prime goods.

Jalap is quiet, but steady at 11c.

Mexican Sarsaparilla is still obtainable at $7\frac{1}{2}$c., though most holders quote $7\frac{3}{4}$c. to 8c.

Senega-root is tending downward and the market is irregular. The regular quotation is 40c. for prime Western, but sales have been made at considerably lower figures. Business is not active in anticipation of a lower market.

Citronella Oil is obtainable in drums at 21c.

German Drug Market.

Hamburg, June 26.

Our drug-market is still quiet, and shows little business.

Ergot of Rye has suddenly advanced, owing to large orders for export, as much as 465m. to 470m. per 100 kilos. having been paid, but there was less demand to-day.

Agar Agar keeps very firm at 375m. to 380m. per 100 kilos.

Balsam Peru is dull at $12\frac{1}{4}$m. to 12m. per kilo.

Camphor.—Refined is quiet and shows little business; in second hands 470m. per 100 kilos. is asked.

Coca-leaves.—Several hundred bales have arrived.

Cumin-seed is quiet; 1899 crop is 62m.; new crop is firmer for shipment at 58m. per 100 kilos.

Menthol is very dull at $16\frac{3}{4}$m. per kilo.

Quinine is quite unchanged at 45m. per kilo.

Star Anise shows a better feeling, like most of the Chinese drugs. Spot is 175m. per 100 kilos.

Japan Wax is firm at 59m. per 100 kilos.

Carnauba Wax quiet at 145m. to 185m. per 100 kilos., according to quality.

Oils.—Cod-liver is unchanged and quiet at 75m. per barrel. Castor is tending firmer, first-pressing in barrels being 62m. per 100 kilos., but the demand is still very limited. Linseed oil is slightly easier, and cotton oil advancing. Cassia oil is advancing. Star-anise oil is dearer at $13\frac{1}{2}$m. per kilo. Peppermint oil quiet at 5m. per lb. for HGH, and Japanese at $7\frac{1}{2}$m. per kilo.

Cablegram.

New York, June 28, 3.14 p.m.:—Market business is in fairly good condition here. Senega-root is active at 34c. per lb. Coca-leaves are easier; Truxillo is selling at 19c. per lb., and Huanoco at 30c. per lb. Buchu is weak, 11c. per lb. being the latest quotation; hydrastis canadensis is easy at 47c. per lb. Refined camphor, in second-hands, is also easier at 59c. per lb. Carbolic-acid crystals are firmer at 22c. per lb., ergot is steady at 46c., and beeswax is strong at 29½c. per lb.

London Markets.

Acid, Citric.—Quiet and unchanged at 1*s*. 4½*d*. per lb. for English make.

Acid, Tartaric.—In good demand at 1*s*. 0½*d*. to 1*s*. 1*d* per lb. for English and 1*s*. for foreign.

Agar Agar.—Advices from the Continent report that only small quantities remain in the hands of exporters, and there is no news of further arrivals. Consequently prices have advanced 10m. to 15m. per 100 kilos.

Ammonia Sulphate is flat and lower at 10*l*. 17*s*. 6*d*. per ton spot; Hull, 10*l*. 15*s*.; and Leith, 10*l*. 15*s*.

Arrowroot very dull. A few lots of fine St. Vincents in cases sold at 3*d*. to 3¼*d*. per lb. in auction on Wednesday, the remainder being withdrawn without bids.

Belladonna-root keeps scarce, and offers from abroad indicate that only a few tons are available at from 38*s*. to 42*s*. per cwt., c.i.f., according to quality.

Benzoin.—Since the auctions a few cases of good Sumatra have changed hands at 9*l*. 10*s*. and fair at 7*l*. The inquiry, however, is still for gum about 6*l*. to 6*l*. 10*s*., which is scarce. Palembang is slow of sale, holders wanting 62*s*. 6*d*. for the best lots. Penang is scarce, and there is no stock in the drug-warehouse. No arrivals of any description have taken place this week.

Buchu-leaves.—Since the auctions further sales of fair greenish round leaves have been sold at 5¾*d*. and good at 6*d*. per lb.

Calumba.—Direct shipments from Zanzibar and Mombasa are now arriving freely *viâ* Hamburg, but fair quantities are also going into consumption.

Camphor.—Crude is still quiet. For June-August shipment sales of 200 piculs Japanese are reported at 180*s*. per cwt., c.i.f.

Cinchona.—620 bales (51,063 kilos.) Java cinchona-bark have been added to the auction to be held in Amsterdam on July 12, so that the total amount to be offered on that date is now 4,209 bales, 15 baskets, and 194 cases; total, 394,958 kilos. bark.

Colocynth.—Stocks both here and in Trieste are almost exhausted. Last week some 8 cases of mostly small dullish apple changed hands at 1*s*. 4*d*. per lb.

Cream of Tartar.—In steady demand at unchanged rates, 95-per cent. powder being quoted at 78*s*. per cwt., spot; 98-per-cent. (B.P.) 81*s*., and 99 to 100 per cent. 82*s*.

Ergot of Rye.—There has again been a good inquiry at advanced rates, owing to the greatly depleted stocks both here and in Hamburg. At the beginning of the week sales of Russian were made on the spot at 2*s*. 1*d*., and later 2*s*. 3*d*. per lb. was paid. Since then, however, 2*s*. 6*d*. has been asked, but not paid. To arrive, business has been done at 2*s*. 1*d*. to 2*s*. 2*d*., c.i.f. The market has been quiter for the past day or two.

Galls.—Quiet, owing to the high figures now asked—viz., 100*s*. per cwt. spot for blue and 85*s*. for green. There are some shipments of green and white on the way, for which 80*s*. and 70*s*. c.i.f. is asked; for blue, 97*s*. 6*d*. c.i.f. is wanted. There are sellers of Japanese at 65*s*. spot.

Gentian is unchanged but steady, at 17*s*. per cwt., c.i.f., for forward delivery.

Gum Arabic.—At auction on Thursday there was practically no demand, and of the 2,206 packages offered only 100 sold. The following were some of the prices paid:—Ghatti, ordinary woody sorts, 15*s*. to 20*s*. subject; Madras, dark, part blocky, 18*s*.; Australian, 7*s*. to 8*s*.; Aden, medium red, 20*s*. to 24*s*. 6*d*., dark red pickings 5*s*. to 10*s*., and good, 17*s*., siftings 10*s*. subject; Bombay-Aden, good pale 45*s*., siftings 18*s*., and pickings 15*s*.; good pale gum from the West Coast of Africa, of Ghezireh character, was bought in at 80*s*. per cwt. Of so-called Persian insoluble, a fair quantity of reddish sorts have been sold at 21*s*. per cwt. down to 18*s*., as in quality.

Gum Olibanum.—In auction fair bold drop sold at 32*s*. 6*d*.; garblings, 17*s*. up to 20*s*. per cwt.

Henbane-leaves.—German new crop is quoted this week by one dealer at from 72*s*. 6*d*. to 75*s*. per cwt., c.i.f.

Ipecacuanha.—Slow of sale this week, although holders continue to quote 12*s*. to 12*s*. 6*d*. per lb. for Rio in spite of the recent arrival, which is firmly held. Cartagena is also quiet and unchanged, with sellers at 8*s*.

Menthol.—There has been a good demand this week, and the market is said to have been cleared of Kobayashi brand at 7*s*. 9*d*. to 8*s*. Sales of ordinary brands have been at 8*s*., and 8*s*. 3*d*. is now wanted.

Oil, Anise, Star, still keeps rising, the market closing about 3*d* per lb. dearer on the week, good sales having been made on the spot at from 6*s*. 4*d*. to 6*s*. 6*d*. per lb., and on Wednesday 6*s*. 7½*d*. was reported as having been paid. To arrive business has been done for June-August shipment at from 6*s*. 2*d*. to 6*s*. 4*d*., c.i.f., but importers ask more money.

Oil, Cassia, is dearer in conjunction with other Chinese produce, sales of 70 to 75 per cent. oil having been made at 3*s*. 1*d*. per lb., c.i.f., and for 75 per cent. to 80 per cent. 3*s*. 5*d*., c.i.f., has been paid; 80 to 85 per cent. is quoted 4*s*.

Oil, Castor.—Very firm, at 39*s*. to 40*s*. per cwt. c.i.f. for medicinal Italian.

Oil, Cod-liver.—Quiet and unchanged.

Bergen, June 23.—The Finmarken fisheries are now almost closing, and in a few days statistics will cease to be issued. The total catch is by no means large, but still a trifle better than that of last year. The number of barrels of non-congealing oil produced, however, as will be seen from last Thursday's telegram, is about 2,000 less than that of last year. As there is no old stock left over from 1899, there is hardly any probability of the market going much below the present quotation of 70*s*. per barrel, f.o.b. Bergen. The exports to date from Bergen amount to 3,720 barrels, against 5,940 barrels at the same time last year.

Oil, Lemon.—It is reported in one quarter that lemon is about 2*d*. per lb. cheaper this week, and one agent has reduced his price to 3*s*. 5*d*., c.i.f.; but in other quarters there is no change, and prices for the well-known brands are maintained.

Oil, Thyme.—This oil, the new crop of which is now being distilled in the South of France, is expected to be short this season. Already one agent here has raised his price 9*d*. per lb., and now quotes 5*s*. to 5*s*. 3*d*., as in quantity.

Opium.—The market is bare of Persian; last sales of fine were made at 13*s*. 6*d*., but probably more money would now be paid for spot stuff. In "druggists" qualities 9*s*. 3*d*. to 9*s*. 4½*d*. per lb. has been paid this week, and 10*s*. 6*d*. to 11*s*. 6*d*. for soft shipping.

Smyrna, June 15.—The market continues quiet, the principal business done being 14 cases new common current talequale, at the equivalent of 7*s*. 10*d*. per lb., c.i.f. In old selected Karahissar three baskets have also changed hands at 8*s*. 8*d*. to 9*s*., as to quality, to be worked into "pudding" opium. We have had a good fall of rain again during the week, owing to which the arrivals of new on this market to date are only 75 cases against 86 at the same period of last year. Our stock of new would have been by this time over 150 cases had we had dry north wind blowing within the past fortnight, instead of south, with rain off and on. Although wet weather does harm to the crop in the lowlands, in the upper or highlands it does good, as the harvesting has not quite commenced there.

Orris.—Very quiet. In Italy prices are firm, in view of the unfavourable prospects for the next crop. It is reported that the syndicate is trying to buy from the producers, and that when the French buyers fill their wants in July and August price will probably be higher. To-day's quotations are: Picked Florentine, 55*s*. per cwt., c.i.f.; sorts, 52*s*.; and small white, 51*s*. 6*d*.

Potash Bichromate.—Advices from the Continent report that the present market position is firm, and that in spite of the dissolution of the Convention prices are tending higher, as manufacturers have held back their goods to a considerable extent.

Quinine.—Quiet, the feeling at the close being slightly easier owing to the unsatisfactory result of the sale in Batavia. On the spot retail sales of good German brands have been made at 1*s.* 3⅞*d.* to 1*s.* 4*d.* per oz., but the business this week has been mostly for October-delivery at 1*s.* 4⅜*d.* The auctions at Batavia, which were held on June 27, went off as follows :—

	Offered.		Sold.
		Ed. II. (kilos.)	
	7,554		4,400 at 21f. per kilo.
		Ed. III.	
	240		200 at 25⅜f. per kilo.
Total ...	7,794		4,600

Rhubarb.—There has been considerably more inquiry this week, and some 40 to 50 cases have been sold at slightly firmer rates, 1*s.* per lb., having been paid for middling Canton, which had been selling previously at 9*d.* to 10*d.*, and high-dried at 9½*d.* There are about 40 cases landing, reported to be high-dried.

Saffron is unchanged, with a steady business at previous rates.

The exports of saffron from Valencia during 1899 were 3,000 lbs , valued at 5,700*l.* From Alicante the exports in 1899 were 15 tons (30,000*l.*), against 20 tons (40,000*l.*) in 1898.

Sarsaparilla.—About 9 bales of yellow native Jamaica have arrived this week.

Scammony-root.—There have been several inquiries, but there is none on offer : from 27*s.* to 30*s.* would be paid for good.

Seeds.—A quiet business is passing at steady rates. Dutch *Caraways* are firm at 31*s.* to 32*s.* per cwt. For Russian *Anise* there is no demand. Morocco *Coriander* is offering at 10*s.* to 11*s.* per cwt. *Cumin* slow at 30*s.* per cwt. for Morocco, and at 32*s.* for Malta. Morocco *Fenugreek* is being offered to arrive at a low price, but buyers do not respond. *Linseed* is dearer at 62*s.* 6*d.* per quarter for clean bold. *Canary* is being sold at 29*s.* per quarter for Turkish, but the quality is poor, the small quantity left of the last good crop being held for 31*s.*

Senega.—Western root is quoted 1*s.* 5*d.* per lb. c.i.f., and 1*s.* 7½*d.* spot London terms. A few sales have been made this week.

Senna.—There has been a good inquiry this week for Tinnevelly leaf at unchanged rates, business in one direction amounting to between 60 and 70 bales. Inferior dark Alexandrian pods have sold at 5*d.* ,good pale being held for 8*d.* to 8½*d.* per lb.

Shellac.—No auctions were held this week, the small quantities advertised for sale having been withdrawn. On the spot there has been a small business at unchanged rates fair second orange TN selling at 60*s.* per cwt., while for of arrival several hundred cases have been sold at 60*s.* 6*d.* per cwt.

Spices have been a quiet market this week, with small transactions and little change in values. At auction on Wednesday some medium cut *Cochin ginger* sold, "without reserve," at 64*s.* 6*d.* per cwt., all the other parcels being bought in except one lot of washed rough, which sold at 31*s.* per cwt. Japan was bought in at 25*s.* per cwt. for old and at 26*s.* for new crop. Bengal is steady at 27*s.* 6*d.* per cwt. Jamaica partly sold at 44*s.* to 50*s.* per cwt. for common, at 52*s.* 6*d.* to 57*s.* 6*d.* for middling, and at 65*s.* to 76*s.* for fair to good washed. Zanzibar *Cloves* are a little easier at $3\frac{11}{16}$*d.* per lb. for June-August and August-October delivery, and at $3\frac{9}{16}$*d.* for January-March. Penang were bought in at 7½*d.* per lb. for ordinary and at 10*d.* for good. Fine picked Japan *Chillies* were withdrawn at 50*s.* per cwt. Natal *Capsicums* were taken out at 90*s.* per cwt. for fine, and at 70*s.* for dark. *Pimento* firmer ; the lots offered were bought in, 3¼*d.* per lb. being wanted for common. Penang *Mace* sold at 1*s.* 11*d.* per lb. for boldish, 2*s.* being refused for bold. *Nutmegs* dull. *Cinnamon-bark* sold at 1⅞*d.* per lb. for good bright. *Pepper* steady, but slow of sale ; fine Singapore white was bought in at 11*d.* to 1*s.* per lb , and Penang at 8⅝*d.* Singapore black is unchanged at 6 *d.* per lb. on the spot, and at 6⅜*d.* for August-October steamer.

Vanilla.—At auction, on Tuesday, about 300 tins, mostly Seychelles, were offered, which chiefly sold at unchanged rates, as follows :—

Seychelles, good to fine chocolate, 8 to 8½ inches, 23*s.* to 23*s.* 6*d.*; 7 to 8 inches, 20*s.* to 22*s.*; 6½ to 7 inches, 19*s.* to 20*s.* 6*d.*; 5½ to 6 inches, 18*s.*; and 3½ to 5½ inches, 15*s.* 6*d.* to 17*s.* 6*d.*; fair, 7 to 7½ inches, 18*s.* to 19*s.*; 6½ to 7 inches, 16*s.* 6*d.* to 18*s.*; 5½ to 6½ inches, 16*s.* to 17*s.*; and common lean and dry brown, 12*s.* 6*d.* to 17*s.* per lb.

News has been received in Paris from Réunion stating that the new crop expected in October will not reach 70,000 kilos. instead of 110,000 to 120,000 kilos., the amount of a normal crop. In consequence of this large sales have been effected in Paris at rising prices.

Wax, Japanese.—In better demand, 33*s.* 6*d.* per cwt. having been paid for good pale squares on the spot.

The Proposed French Tariff.

A petition to the British Government, relating to the new French law raising the duties on British colonial-produce from September 1, lies in the Commercial Sale-rooms for signature. It asks the Government to take immediate steps to get the application of the law postponed for two years. It also asks the Government to secure the "most-favoured-nation treatment" for India and her colonies, in France and any other countries which do not grant it. We drew attention to this proposed French tariff in an editorial, on May 26.

American Peppermint-crop.

The Schoellkopf, Hartford & Hanna Company, of New York, write on June 15 that nothing very definite with regard to the peppermint-crop has come to hand as yet, but, generally speaking, it appears to be prospering well, and although the quantity of plants sown this season is not anything like that of the last two years, there is every reason to believe the crop will be a fair-sized one. It is now generally known that Wayne County in this State is no longer the headquarters for growing peppermint. The Western States have developed so largely in this respect, that the farmers in Wayne County have practically retired from the field.

The Camphor-monopoly.

Japanese newspapers state that Messrs. Samuel Samuel & Co., having complied with all the requirements in connection with the camphor-monopoly, recently took over 700,000 catties of camphor, representing the stock held by the authorities last year, and are commencing to export it. The conditions originally imposed as to the nature of the bonds to be lodged as security has been relaxed. Bonds of the new Formosa Bank were originally designated, but this provision has been changed so as to read that any financially-recognised securities will suffice. The change is of much importance. It is stated that Mr. W. F. Mitchell, the representative of Messrs. Samuel Samuel & Co. in Japan, will make a journey to England for the purpose of consulting with the heads of the house as to Japanese enterprise in general.

Coming Events.

Thursday, July 5.

Chemical Society, Burlington House, Piccadilly, W , at 8.30 P.M. The Nilson Memorial Lecture will be delivered by Professor Otto Pettersson, of Stockholm.

The Röntgen Society, 20 Hanover Square, W., at 8 P.M. Annual meeting and President's address.

A Congress of the Chambers of Commerce of the British Empire is being held in London this week.

The Postmaster-General announces that from July 1 the charge of 1*d.* for every pound beyond the first pound which is now made on all packets over 1 lb. in weight conveyed by special messenger all the way, will be abolished, and only the express fee of 3*d.* a mile will be charged for the delivery.

"The Off-licence Holder" is the title of a new paper, which is described as "a focus for all the news relating to the trade, and a medium, of communication between wholesale and retail." It is a modest eight-page paper, but whether weekly or monthly it does not say. It is published at 112 Newington Causeway, London.

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